



***G7 Ministerial Conference
on the Global Information Society***

Ministerial Conference summary

Brussels, 25 and 26 February 1995



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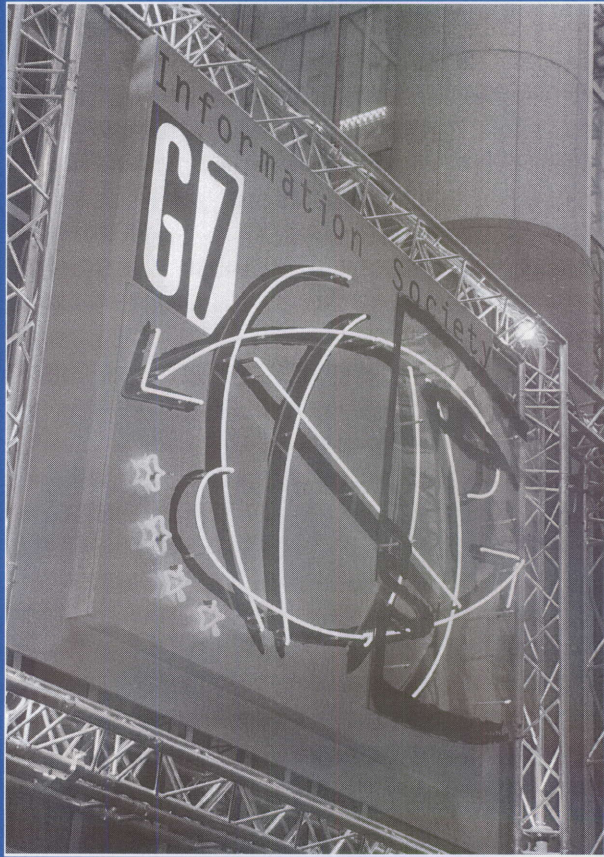
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Preface by Commissioner Martin Bangemann

The G7 Ministerial Conference on the Global Information Society took place in Brussels from 24 to 26 February following an agreement between the Heads of State and Government at the G7 Naples Summit in July 1994. The aim of the conference was to explore critical issues related to the development of a worldwide information society, as a basis for economic growth and stability, for creating jobs and enhancing living standards.

Throughout the discussions at the conference there was the recognition that the building of a global information society requires global consensus and cooperation. It was therefore particularly appropriate that the keynote speaker at the opening dinner of the Brussels conference was Deputy President Thabo Mbeki of South Africa. Mr Mbeki brought home the need to ensure that the information society revolution benefits all countries, and not just the rich nations of the developed world. His proposal that South Africa play a leading role in holding an information society conference for developing nations was welcomed by ministers, and is being followed up.

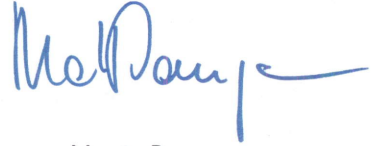
The conference covered three main areas, regulatory framework and competition, the information infrastructure and applications, and social and cultural aspects. But unsurprisingly a few key themes ran through all three sessions.

Ministers emphasized throughout the importance of liberalized service provision, and of open competition in the information market, and the principle of universal service was identified as fundamental. The conference recognized the concerns of men and women in the street over the sort of impact the information society will have on daily life at home, at work and at leisure — fears about jobs, about the accessibility of the new technologies, about the possible loss of cultural identity.

It was clear from the ministers' discussions that the news on these fears and concerns is good. What we can see today and foresee tomorrow suggests that life will be richer, not poorer; that new markets will bring new jobs, that the information society will foster cultural diversity, not stifle it.

At the same time the ministers were able to identify ways to cooperate in speeding up the worldwide development of the information society. The 11 pilot projects they initiated represent one clear and tangible expression of that cooperation.

The G7 conference, with its accompanying industrial round table and showcase, has given a new impetus to the growth of the global information society, an impetus which in the coming months and years will lead to the biggest transformation in industry and society of our lifetimes. It is through global cooperation and collaboration that that transformation will be for the benefit of all citizens of the world.



Martin Bangemann,
*European Commissioner
responsible for the Information Society*

Introduction

The G7 Ministerial Conference on the Global Information Society which took place in Brussels from 24 to 26 February was divided into three main parts: the Ministerial Conference itself, the round table of industrialists and the information society showcase.

The G7 ministers met on Saturday and Sunday to discuss the various aspects of the information society and the role that governments should play in the development of the information infrastructure. The conclusions drawn from these discussions as well as the description of 11 pilot projects approved by the ministers are published in Annex I. The aim of this publication is to give an impression of the debate that took place and highlight issues raised by the ministers. The round table of industrialists and the information society showcase will each be the subject of a separate publication.

The conference was divided into three thematic sessions. The first session dealt with the regulatory framework and competition policy. The second was devoted to the development of the information infrastructure, the provision of access to it, and applications. In the final session the ministers discussed the social and cultural aspects of the information society. For each thematic session, discussions were led by three brief keynote speeches given by ministers from Canada, the European Union, Japan and the United States of America.

The text and quotes contained in the text are based on a transcript of the English simultaneous translation of the conference discussions provided by the European Commission interpreting service, and may vary from written speeches distributed at the time of the conference.

Participants in the G7 Ministerial Conference

Canada

John Manley	Minister for Industry
Michel Dupuy	Minister for Canadian Heritage
Jon Gerrard	Secretary of State for Science, Research and Development

France

José Rossi	Minister for Industry, Posts and Telecommunications and External Trade
Serge Lafont	Technical Adviser to the Presidency of the Republic
Bruno Lasserre	Director-General of Posts and Telecommunications

Germany

Günter Rexrodt	Minister for Economic Affairs
Wolfgang Bötsch	Minister for Posts and Telecommunications
Cornelia Yzer	Parliamentary Secretary of State for Education, Science, Research and Technology

Italy

Alberto Clò	Minister for Industry
Agostino Gambino	Minister for Postal Services and Telecommunications
Alessandro Frova	Under-Secretary of State for Postal Services and Telecommunications

Japan

Ryutaro Hashimoto	Minister for International Trade and Industry
Shun Oide	Minister for Postal Services and Telecommunications
Tomohika Kobayashi	Ambassador Extraordinary and Plenipotentiary to the European Commission

United Kingdom

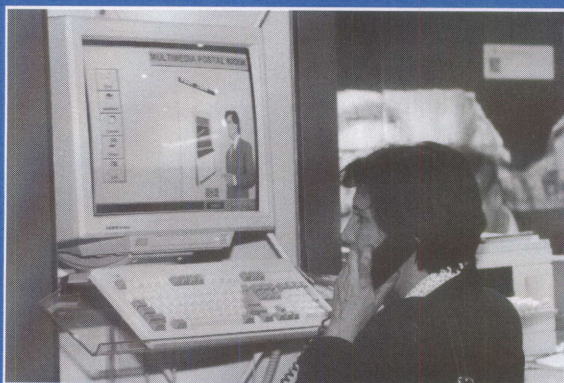
Ian Taylor	Minister for Telecommunications, DTI
Alastair Macdonald	Deputy Secretary, DTI
Neil McMillan	Telecommunications division, DTI

United States of America

Ronald Brown	Secretary of Commerce
Clarence Irving	Assistant Secretary
Reed Hundt	FCC Chairman

European Commission

Martin Bangemann	Member of the Commission responsible for information and telecommunications technologies
Karel Van Miert	Member of the Commission responsible for competition
Pádraig Flynn	Member of the Commission responsible for employment and social affairs
Marcelino Oreja	Member of the Commission responsible for culture and audiovisual policy
Édith Cresson	Member of the Commission responsible for science, research and development, and human resources, education, training and youth
Mario Monti	Member of the Commission responsible for the internal market



The G7 information society showcase

Thematic sessions



Participants in the G7 Ministerial Conference

Session I

The regulatory framework and competition policy

Liberalization was the main issue discussed in the first session of the ministerial conference. Establishing a stable, predictable and favourable framework which will ensure the conditions for full and fair competition was broadly endorsed by all participants as the key to setting up information superhighways with the broadest possible participation by economic agents.

According to the first session's Chairman, Günther Rexrodt, Germany's Minister for Economic Affairs, the participants should bear in mind the following question from the start: 'do we want an information society which will follow the structures laid down by government, or [...] a system based above all on freedom, for which the State lays down only the general framework conditions?'

In order to structure the debate, he proposed three main themes for discussion:

- (i) market access and competition law;
- (ii) interconnection and interoperability of the information infrastructures;
- (iii) safeguards, data protection, security of information technology systems and copyright.

If we were to create an information society which is of benefit to all, continued Mr Rexrodt, the decisions and agreements achieved in these sessions needed to take into account the expectations and aspirations of industry and of the future users of the information infrastructure.

Market access and competition law: the path towards liberalization

'The keys to implementing a truly global information society are private investment and competition.' With this statement Ronald Brown, US Secretary of Commerce, made clear what his government considered to be the role authorities should play: they needed to adapt their regulatory frameworks to changing markets and technological development in such a way that they 'provide incentives to both build and use the networks that will create the global information infrastructure'. Mr Brown emphasized that any country that seeks to limit access to markets will

slow the rate of growth in its infrastructure and 'deprive its companies and citizens of the best products and services at the best price as well as undercutting its competitiveness and quality'.

Mr Brown emphasized that governments have the power to take action that either accelerates or holds back the development of a global information infrastructure, and added that it would require a concerted and coordinated international effort to achieve the former while avoiding the latter. Mr Brown moreover stressed that multilateral agreements are also an important mechanism for promoting competition and market access and reducing barriers. He added that progress was now being made in liberalizing the market for value-added services and urged the G7 partners to reach agreement on liberalizing basic telecommunications services through the negotiations taking place in the context of the World Trade Organization (WTO).

Endorsing Mr Brown's comments, Ian Taylor, UK Minister for Telecommunications, asked governments to exercise restraint: 'it actually won't be the governments that will build up the superhighways', he reminded participants; 'at worst', he warned, 'overactive governments will actually hold back their development'. He recommended instead that governments should have as their objectives 'the stimulation and the facilitation' rather than 'the frustration of the energies' of those businessmen who will be essential to the development of the information society. Accordingly, he said, governments will need to change the way they regulate telecommunications and open their markets as soon as possible.

However, Mr Taylor pointed out, 'the first thing we need in a competition policy for telecommunications is actual competition'. Therefore competition authorities need to be provided with 'detailed and strong powers to avoid predatory action against new market entrants, who will need to make significant up-front investment if they are to establish themselves'. In this context he welcomed the commitment, 'albeit slow', to full liberalization within the European Union and the initiatives being taken by the European Commission to introduce and enforce competition. 'Unless we rapidly give our companies an open, liberalized environment in Europe, they will be unable to play a full role and keep a competitive edge', he concluded.

Shun Oide, Japan's Minister for Postal Services and Telecommunications, agreed that the main role of regulation should be to encourage, rather than restrict, competition. A key result, he said, should be that tariffs are reduced and that a greater choice, and a greater diversity, of telecommunications services come on to the market. The aim of regulation should be to 'try to secure private investment', and to ensure that best use is made of technical innovation by improving the regulatory framework so that 'competition will be fully utilized', to ensure the 'free flow of information to all citizens and to make the information infrastructure a common asset for all people'.

John Manley, Canada's Minister for Industry, further endorsed this view, adding that there was a distinction to be made between 'competition in terms of infrastructure and in terms of content'. Competition in infrastructure should be as open as possible, he explained, in order to drive down costs and ensure that the information superhighway is 'accessible and available to everybody'. On the other hand, he said, competition in content requires greater sensitivity from a cultural and linguistic perspective. In this context, he stressed, competition should imply 'fairness in terms of internal indigenous content and external content', and he urged the other participants to take this into consideration.

He emphasized that liberalization of markets would have widely differing effects on different countries: 'each of us faces fairly unique circumstances in our own markets depending on the nature of the market that we are moving from'. In some countries, he noted, competition was being gradually imposed on 'publicly held monopolies', while in others it was 'privately owned but regulated monopolies', which would be faced with greater competition.

The progress towards liberalization would be further complicated, Mr Manley commented, by 'the prospect of various degrees of integration — particularly vertical integration — as new players come into our markets'. If, Mr Manley added, the object of liberalization is 'to enjoy the benefits of competition for the sake of our consumers and for the sake of innovation', then any modifications to the regulatory framework 'need to take into account both the nature of the markets that exist and the nature of the players that are moving into them, so that in fact the competition is sustainable'.

Mr Manley shared a concern common to many countries around the world, that opening and liberalizing markets did not necessarily guarantee a level playing-field. 'Living so close as we do to a large neighbour', he said, the Canadian Government was very much aware that it was 'quite within the capacity of the US to provide all of the infrastructure for Canadian telecommunications with their existing resources'.

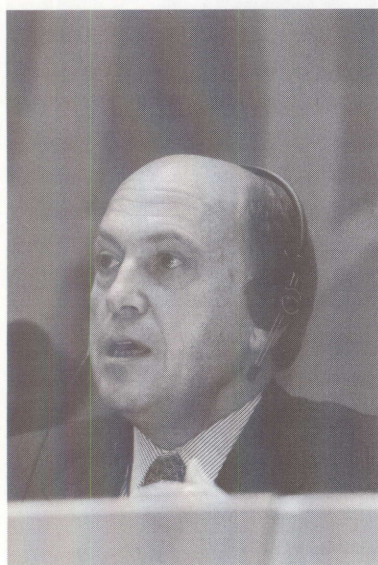
Mr Taylor expressed sympathy with these sentiments, commenting that 'one of the challenges we in the European Union have, is whether [...] opening up our markets leaves us vulnerable to American imperialism in a technological sense'. However, his conviction was that, in fact, 'failure to open up is more likely to guarantee the long-term dominance of American software and other houses than anything that we could do'. This, he said was because 'the speed of change of digitalized technology has itself an impact on the ability of companies to come forward with new ideas'. Furthermore, he added, 'if companies in the European Union are not exposed to



The Canadian delegation

the pressures of competition, they will fail to come up to the level of expertise and the speed of application of new ideas into commercial reality that American companies will do with a single market of 250 million people'.

With this in mind, Martin Bangemann, EU Commissioner with responsibility for information and telecommunications technologies, emphasized that it was vital for this conference to come to 'some degree of understanding that on certain specific questions we need to develop mechanisms which will allow us, at the very least, to develop our legislation in the same direction'. This was particularly important, he added, when G7 partners came to negotiate within international organizations such as the WTO, the International Telecommunications Union (ITU) and the Organization for Economic Cooperation and Development (OECD). Moreover he reminded the government representatives of the importance of discussing how the principles agreed during this conference could be translated into practice.



Minister José Rossi

Both José Rossi and Wolfgang Bötsch, French and German Ministers for Postal Services and Telecommunications, underlined the commitment of their governments to full liberalization of their telecommunications service infrastructures. Mr Rossi added that France 'welcomed the recent developments in the European Union' and would give its full support. 'We want to have full and equal competition between all players and amongst the Member States of the European Union', he said.

Mr Bötsch asked participants to ensure that 'there will be a genuine market access that would apply to all and could be achieved by all'. There should, he said, be no barriers in individual countries for suppliers from abroad, and the negotiations within the WTO should be aimed at the removal of restrictions on market access. Concerning the speed of liberalization, Mr Bötsch mentioned that the deadline for removing remaining telecommunications monopolies (1 January 1998) was something that the European Union had 'worked particularly hard on in the last year'.

Karel Van Miert, EU Commissioner with responsibility for competition, added that while some Member States of the European Union were 'struggling to make the telecom sector subject to competition', the European Commission was 'pushing hard to liberalize also the authoritative infrastructures even before 1 January 1998' and in this spirit referred to a proposal to lift constraints and obstacles in the cable television market. Mr Van Miert hoped that this sector would be fully liberalized from January 1996.

Mr Taylor commented that any delay in liberalization — and, he argued, perhaps even the agreed deadline would not be soon enough — 'will leave disadvantaged companies which themselves have not been able to adapt to a much more

competitive atmosphere'. Therefore, he urged his European partners, 'the quicker we open up our markets to competition, the more likely it is that Europe will have industries which can compete in the development of vehicles for the information superhighway'.

Mr Bangemann reminded participants that 1 January 1998 is 'not the date as of which liberalization will begin; rather it is the date by which liberalization must have been completed'.

Globalization of markets and the convergence of communications technologies, especially in the field of multimedia, will lead to new forms of international cooperation between companies. These global alliances will also present new challenges for regulators.

Mr Van Miert referred to the most recent experiences with strategic alliances within the European Union, for example the cooperation between BT and MCI. He reminded the G7 partners of the need to reach agreement rapidly on the criteria used to decide whether alliances should be approved or rejected on competition grounds. 'We are not questioning the fact that strategic alliances occur', he emphasized, explaining that the Commission had a responsibility to examine the competition implications. In the case of the BT-MCI agreement, the Commission gave its approval because competition already existed in both countries involved, Mr Van Miert added. However, he acknowledged that in other countries the decision might be a little more complicated.

Moreover, commented Mr Van Miert, the development of a global information society — almost by definition — implies strategic alliances on an international basis, and will require different competition authorities to make decisions on worldwide alliances. Therefore, he said, guidelines for handling these cases were essential.

Mr Van Miert also warned of the risk that markets 'can already be closed down' even before they are fully opened to competition, by the concerted action of major players. To avoid these situations, he asked the G7 partners to ensure at least a minimum of reciprocity on a worldwide basis. This, he said, could be achieved by developing 'parallel policies' to make sure that the efforts to create competition in the sector will not be 'offset by cartels or by agreements' aimed at 'closing down markets or consolidating positions which have been there for a long time'.

Mr Taylor agreed with Mr Van Miert that global alliances in telecommunications should not be used 'to consolidate monopoly positions or to pre-empt market entry'. However, he stressed, they could also 'create new market opportunities and improve consumer choice'. Therefore, governments should ensure that such alliances are set against a background of liberalization and regulatory scrutiny, Mr Taylor concluded.

Mr Bangemann emphasized the key role such alliances could play in increasing the competitiveness of the companies involved. He felt that the sheer size of the global information market should reduce the risk that they might lead to dominant positions or new monopolies. Also, he commented, alliances would more naturally be established between companies originating in liberalized countries. 'The idea of such alliances is to establish closer links between the markets from which the companies come', Mr Bangemann explained. Thus, a company would be unlikely to seek partners from non-liberalized countries and markets, as such companies would have 'nothing to offer' their partner. He regarded this as a major argument for pushing forward with the liberalization of telecommunications markets.

Interconnectivity and interoperability: who will set the standards?

Interconnectivity and interoperability of networks is a central requirement if the global information society is to develop fully. One of the messages emerging from the industrialists' round table was that interconnectivity and interoperability will not be possible without worldwide standards. Indeed, according to Mr Bangemann, worldwide standards were as important for competition as opening up the markets, because there was the risk that national standards might be used 'in a quasi-protectionist fashion'.

There were two options, Mr Bangemann continued: 'either we try to get the industry itself to agree on the standards or we try to get the standards drawn up by some kind of organization'. He added that the Commission favoured the first option as 'it will probably be quicker in many instances, it will be cheaper and you are likely to get a standard which will indeed guarantee interoperability. That must be our guiding principle here'. This, he said, led to a second question: 'who is going to draw up the standards?' Again two contrasting approaches were possible: to draw up international standards directly or to allow each nation to work out its own standard, which might cause difficulties later when it came to working out the interfaces that would 'actually allow the networks to connect?'

Mr Oide emphasized that whatever form of regulatory framework a country adopted interconnectivity and interoperability had to be made a reality at all levels. 'We have to try to attain interoperability and interconnectivity both in domestic and in international communications', he said.

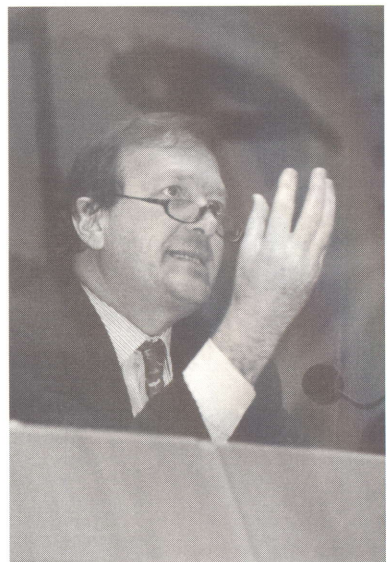
Mr Oide explained that standardization had to apply to the different layers of the information infrastructure: the network infrastructure; the terminals for transmitting and receiving information; and the applications that will be used on it. He added that it was vital that standards should be global standards, so that 'all people who are involved in the construction of the infrastructure will be able to use them freely at any time and anywhere'.

In order that standardization might proceed efficiently, Mr Oide said it was necessary to formulate an action plan, listing all items to be standardized and ensuring that 'the standardization process is open, fair, rational and impartial'. Finally, Mr Oide asked the G7 partners to promote interoperability and interconnectivity tests. The test beds themselves should be interconnected and interoperable, as the results gained from these tests will form the basis for future services.

Italy's Minister for Postal Services and Telecommunications, Agostino Gambino, warned that 'standards cannot be established instantaneously'. They were, he said, 'the result of negotiation and cooperation both at the level of design and conception'. Moreover, added Mr Gambino, 'any standards set must not affect simply the G7 countries'. They should also be extended progressively to developing countries. 'This is fundamental if we are to indeed guarantee equal opportunity throughout the world, and if the rules of competition are also to cover potential competition from new operators'.

Mario Monti, EU Commissioner with responsibility for the internal market, added that from the point of view of the European internal market some interesting aspects could be added to the discussion. In his view, the Commission's work was based on the principles of 'freedom of establishment and of freedom to provide services, together with the principle of mutual recognition'. However, Mr Monti conceded that in certain areas secondary legislation would be necessary 'to reach an equivalent level of protection for general interest objectives'.

Reminding the participants that the aim of the G7 conference was to promote coordination between the various emerging policies for the information society, Mr Monti commented that this was not 'too different in the nature of the exercise from the process which has been going on at our European internal market level'. He hoped that the European experience would prove useful 'as a laboratory for the work that will have to be done at the G7 level'. As an example, he drew attention to the Green Papers that the Commission had recently prepared on commercial communications, intellectual property rights and legal protection of encrypted signals, each of which was the result of extensive consultation open to all interested parties and market participants, both within and outside the European Union. 'I believe and hope', he said, 'that these could provide occasions in which some constructive work for developing a broader regulatory framework at the G7 level could be done'.



Minister Günther Rexrodt

Network security, data protection and intellectual property rights: Finding common ground

Another complex but crucial issue discussed by the ministers was that of security of networks and data and intellectual property rights (IPRs). The Chairman, Mr Rexrodt, reminded the participants that it was vital to ensure that these rights and guarantees were respected in order to ensure that everybody is in a position to benefit from the opportunities of the new technologies. 'I believe', said Mr Rexrodt, that 'acceptability by our citizens is a prerequisite if the information society is to be a success'. In this context, Mr Rexrodt commented that 'data protection and protection of intellectual property are key issues'.



The Italian delegation

With a view to these safeguards, two major issues were raised: firstly, the need for a free flow of information in the global information society to be balanced against the need for protection against fraud and piracy; and, secondly, the need to compare the existing rules in different countries and to ensure that future regulations will grant the same degree of freedom and protection. A broad consensus was reached that these principles needed to be discussed and that collective action should be taken on an international level, for example in the context of the World Intellectual Property Organization.

On the issue of security of networks, Mr Rossi commented that this was an extremely complex issue, because 'it presupposes that we are able to reconcile two major imperatives'. On the one hand, he said, users needed 'a reliable tool which will guarantee them full technical information', while providing protection against piracy of confidential data. On the other hand, he said, 'the Member States must be able to respect both their national and international commitments', while reserving the right 'to intervene, to intercept', in order to combat criminality, and in order to guarantee national security 'which is a matter which we cannot ignore'. Mr Rossi added that in 1994 the OECD had approved guidelines for rules in this area and that it was now up to the different governments to apply them on a national level.

Taking up this point, Mr Taylor agreed that governments 'should be watchful' to ensure that the new opportunities offered by the information society 'do not also create the scope for dishonesty or international crime'. He warned, however, that the wish to protect privacy should not lead to intrusive or obstructive measures. Today 'the normal man and woman in the street' was willing to provide certain personal details in order to use online services, for example in shops fitted with automatic credit card readers. 'Our citizens will not understand if theoretical concerns of regulators stop them from benefiting from the information society as

it develops', Mr Taylor said, concluding that 'our approach to data protection should be governed by common sense'.

Mr Taylor felt it was important to underline that it was not only the users who needed protection, but also the information providers. 'Content is what the information industry is all about', he said, adding that intellectual property rights were 'a vital component of developing multimedia contents and applications'. Besides the need to reward authors' creativity and inventions, there was also, he said, a need to protect those who invest in databases and multimedia packages incorporating information and material from a number of sources: 'we need to have speedy and commercially based procedures allowing those wishing to exploit the works to gain access to the intellectual property rights on a fair basis'. The G7 partners have to be aware, Mr Taylor explained, that 'it is quite absurd in the rapidly moving international superhighways to have intellectual property rights which are themselves not tradable assets'. This, he believed, 'will cause a delay in the expansion of content on the international superhighways'.

'We must act firmly against piracy but this should be on a multilateral basis', Mr Taylor went on. He hoped that the TRIPs (trade-related aspects of intellectual property rights) agreements would be used effectively to combat fraud, and asked participants to 'contribute in a positive way to work out arrangements in the World Intellectual Property Organization'.

Mr Brown agreed with Mr Taylor that it was necessary to ensure the protection of databases and other works that are collected and assembled from pre-existing works, such as multimedia. However, Mr Brown continued, 'we must establish the principle that right-holders must have the legal and technical means to control the use of their property'. In this context, Mr Brown did not see the need for mandated access to databases or multimedia through compulsory licensing and added that it was for the private sector to take the lead in developing any necessary licensing systems.

With regard to the security and reliability of networks, Mr Brown encouraged the G7 partners to continue to share both outage information and best practice recommendations on how to ensure reliability within international organizations such as the ITU and the OECD. Moreover, he said, 'we should also share information regarding the best means available to advance security goals while not impeding progress or other principles of the global information infrastructure, such as promotion of competition and open access'.

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We must set firmly against piracy but this should be on a multilateral basis. Mr Taylor went on to hope that the TRIPS trade-related aspects of intellectual property rights agreements would be used effectively to combat fraud and asked participants to contribute in a positive way to work out arrangements in the field of intellectual property. Organisation.

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Session II

Development of the information infrastructure, provision of access to it, and applications

The Chairman for the second session, Mr Rossi, set the framework for the discussion by formulating three key questions:

- How do we reconcile the need to establish the infrastructure and to develop the applications that will use it?

This question, said Mr Rossi, is reminiscent of the chicken-and-egg dilemma. The development of innovative applications depends on having an appropriate infrastructure; however, the networks will only be developed if there is a flourishing service market, which means that these developments have to go together. Therefore, the question is, how should this parallel development be organized?

- How can the supply of services of public interest be stimulated?

How should we approach the question of services of public interest, for example in the health-care and education sectors? According to Mr Rossi this is an area where public authorities have special interests and will have a particular role to play.

- How should international projects be organized?

Should it be left completely to private organizations or should public authorities take over the organization of projects of public interest? As an example, Mr Rossi referred to the list of pilot projects prepared by the European Commission, which he described as an 'outstanding document'. However, he added, it would now be up to the ministers to agree on a *modus operandi* on how to progress with these projects once they have been clearly identified. With the goal of a global information society in mind, he commented that we should be seeking mechanisms that extend beyond the limits of the G7 itself.

**Development of infrastructure and applications:
What is the role of government?**

This first point in turn raised two key questions: do public authorities have any role to play in the development of infrastructure and applications? And if yes, in what way?

Mr Bötsch stated his response to the first question unambiguously: 'in a market economy, it is generally the suppliers who ensure that there is a sufficient supply and that the market is adequately catered for'. In other words, 'the development and marketing of telecommunications applications are a matter for private investors and providers of services'. Of course, this did not rule out the involvement of public authorities in pilot projects that encourage the exchange of ideas and experiences on applications. In general, though, Mr Bötsch felt that the State's role should be to lay down the framework conditions under which companies can invest and the markets can develop. He added that at present there was little commonality between different countries.

By deciding to open both their network infrastructure and their telephone services to full competition by 1998, Mr Bötsch commented, the Member States of the European Union were helping to guarantee an open and competitive market which would allow just such a common framework to develop.

Nevertheless, there still remained problems to address, warned Mr Bötsch. Building up an information infrastructure depends upon networks being interlinked and interoperable; at present, technical incompatibility and restrictions on interconnection hamper both the development of networks and the creation of new services. Therefore, he asked the G7 partners to work together to develop standards that are both worldwide and flexible.

Mr Bötsch's point of view was endorsed by Mr Rexrodt, who exhorted governments to place the highest priority on opening access to networks and granting licences for alternative networks. It was his belief that 'alternative network applications will follow as a matter of course'.

Édith Cresson, EU Commissioner responsible for science, research and development and human resources, education and training, also considered that incompatibility and the lack of interconnection of European networks together constitute one of the major problems faced by governments attempting to create an information infrastructure: 'We have networks which are very advanced at national level but which are not that strong in terms of links at the trans-European level. We do not have European operators, rather we have our own national operators'. Mrs Cresson believed that a liberalized infrastructure would certainly help to create the right environment, but three other things were also needed: an overall vision as exemplified in the concept of trans-European networks; a rational approach to partnerships and joint ventures between European countries; and the

creation of a regulatory body at European level to ensure the fair and effective allocation of resources, frequencies and licences.

Mrs Cresson pointed out that in addition to the question of interoperability of networks there is also the problem of interoperability of services and applications. Here, she commented, the market is 'moving onward with giant strides'; it was up to governments and authorities to 'see how we can fall into line'.

Endorsing the German position that the role of public authorities was to create a regulatory framework with a flexible system of standards adapted to the needs and developments of the market, Mrs Cresson emphasized the importance of taking this into account as early as possible in the development process: 'I cannot stress that clearly enough, compatibility must be a central concern from research stage onwards'.

Mr Bötsch expanded on this idea by suggesting that it was important for the G7 to 'initiate a common project on interconnection between advanced projects and interoperability between the associated services'.

On the issue of new international regulatory bodies, Mr Taylor commented that there are already 'lots of standards organizations working in each of our countries' and that this was creating 'difficulties in keeping an eye on what is going on'. Reflecting that 'in every aspect of telecommunications and the computer industry, there is somebody worrying about standards', Mr Taylor suggested that a useful approach might be to coordinate current activities — particularly with industry bodies: 'we have encouraged the trade associations in our country to be much more effective and have given help in certain cases [to enable them] to come together when there have been several dealing with the same subject. There is plenty of work going on', concluded Mr Taylor, 'it just needs to be better coordinated'.



The Japanese delegation

Mr Taylor also drew attention to the divergent views of interoperability that were prevalent in the telecommunications and computing industries, an aspect that was becoming more important as the two industries became more and more interlinked. 'Standards seem to be much easier in telecommunications', he commented, pointing out that many of the larger companies with a PTT background 'depended on interconnection internationally [...] — that is not the case in terms of the sockets for the appliances but [...] it has been possible to telephone from London to Japan without difficulty for a long time'. Conversely, standards in the computing industry were often deliberately kept separate, asserted Mr Taylor, giving as an example the 'classic division between Apple and IBM, which is only now being resolved'. Therefore, said Mr Taylor, governments should especially 'encourage the

computing firms to try to come together on compatibility and on standards'. Without laying down rules for the industry, governments could then 'act as an honest referee or a bringer-together of people to try to get them to see how they can assist'.

The representatives from Japan, International Trade and Industry Minister Ryutaro Hashimoto and Mr Oide, argued that governments should make efforts towards 'an integrated, synchronized and comprehensive development of both network infrastructure and applications'. Mr Hashimoto commented that after January's earthquake in Kobe, computer networks such as Internet came into their own. While the catastrophe knocked out the telephone system, leaving no means of communication with the affected area, Mr Hashimoto said that 'many universities, enterprises and citizens' groups made use of computer networks on their own initiative', using them to send out information on 'safety of individuals, places of refuge, status of restoration of transportation facilities and the announcements of various levels of the government', said Mr Hashimoto. Moreover, these networks were also used by those working as volunteers to exchange information and for collecting contributions. On his own initiative, an official of the Kobe municipal office used the Internet to send out images of the city in flames and of collapsed buildings, 'resulting in offers of help from around the world'. Mr Hashimoto added that within a period of four days one database was accessed by more than 900 000 people from all over the world.

Mr Hashimoto's conclusion from this experience was that the establishment of the information society depends heavily 'on how we put to practical use the information and telecommunications technology that is undergoing rapid progress'. He added that 'the development of applications is important for creating new business and jobs'. According to Mr Hashimoto, applications need to be developed, not just by governments and large enterprises, but also 'through the creativity, ideas and ingenuity of various entities including small and medium enterprises, individuals and citizens' groups'. They should not be confined to the business sector but should cover all aspects of social activity including 'lifestyle, culture and disaster prevention' so that 'everybody can potentially become a beneficiary'. Finally, they should be available on a worldwide basis through a global network.

Therefore Mr Hashimoto urged governments not only to create an environment that encourages the development of applications but also to 'create an environment where applications will be used by everyone'. Four policies should be considered by the G7 partners, he said:

- (i) Governments should give an impetus for the development of applications in general and take the lead in providing applications in areas of public interest such as administration, education, medical care, welfare, libraries and research. Their initiatives in these areas can have a profound effect on the private sector's activities.

- (ii) To ensure that everyone can benefit from the applications, governments must provide universal access by making basic telecommunications services available everywhere. At the same time, however, it will be essential to upgrade people's abilities to use information systems through education and the promotion of applications that are easy to use for disabled and elderly people.
- (iii) Support should be offered to developing countries in terms of development of technology and human resources to ensure that the benefits of the information society can be enjoyed globally.
- (iv) An institutional environment must be put in place without delay, in order to address the challenges discussed in the first thematic session, namely: to ensure interoperability which is essential for promoting the development, provision and use of applications; intellectual property rights (IPR); security; privacy and so on.

At the same time, Mr Hashimoto added, it was essential to take a practical approach, developing the concrete applications as a means of exploring solutions to these challenges.

In closing this part of the discussion, Mr Rossi reiterated the importance of the interrelation between building up an infrastructure and development of applications: 'Investment in infrastructure can only be rendered profitable if in parallel, a market of services and new applications for the use of these networks will be developed. At the same time innovation in services will only emerge if the technological and commercial development of networks is sufficiently visible and transparent to all economic agents. So the development of infrastructure and applications must really operate in parallel, hand in glove'.

Mr Rossi then outlined three possible approaches:

- First, State authorities should enable infrastructure operators to get into services and the service-providers to choose their infrastructure freely.
- Secondly, governments should carry out full-scale experiments to test the interface between content and infrastructure.
- Thirdly, in order to create a 'virtuous circle' of investment, governments and public authorities should consider ways of encouraging the development of innovative applications in such areas as health care and education.

How can the supply of services of public interest be stimulated?

The key issue addressed under the question of public interest services was that of universality, or universal service. There was broad agreement that it was not enough for governments to ensure the provision of a global information infrastructure; they also had a responsibility to ensure that all citizens will have access to the services made available via this infrastructure.

However, Mr Manley raised the question of what exactly universal service means in the 'new age' of information technology. As he pointed out, it was easier in yesterday's world, when it 'could be expressed as the number of telephones per capita'. In the past, he said, governments devised a system of either privately-owned (but government-regulated) monopolies or government-owned monopolies which have resulted in the achievement of universal basic telephone service even to the remotest parts of their countries. But today, markets and technology have changed dramatically. What would it take, he asked, to 'achieve universality in the new world? [...] Does it mean a computer in every home as well as a telephone?'. But also, what type of service would it include? 'Should electronic access to education, health, government services or library services be universally available?' As Mr Manley pointed out, 'the devil tends to be in the details'.

To face the challenge of universality, Mr Manley asked the G7 partners to continue the dialogue on these details of what universality means in practice in the new information economy and to examine how it could best be achieved. And, although he accepted that the issue is complex enough in the context of the industrialized world, he also asked what universality should mean in relation to developing countries. 'We keep talking about the GII, the global information infrastructure, but just exactly what does the G stand for?' asked Mr Manley. It was misleading, he said, to talk of universality, 'when at least half of the world does not even have access to a basic telephone service. Do we really believe that underdeveloped societies are going to get universally connected to the telecommunications of yesterday — basic telephones — let alone the new communications services of tomorrow, without some kind of commitment and leadership from our governments. Do we believe that global market forces will do tomorrow what they have not achieved today?'

Therefore Mr Manley called upon the G7 partners to ensure that developing countries will participate in the information society and to show some leadership on this issue. 'We have to show the world that there is a place in the global information society for everyone. We have to avoid global infrastructures "haves" and "have-nots", if we do not, then the gap between rich and poor will surely continue to grow', he warned.

Mr Brown was of the opinion that the shape of universal service will ultimately depend on how the different countries put together their own national information infrastructure. 'The global information infrastructure is, in many respects, going to be the result of an interconnection between our national information infrastructures. In other words it will be a network of networks.' Thus, the efforts which are made on a national level towards a universal service, and here he cited the commitment of the United States Government to connect every school, every hospital, every clinic and every library to the national information infrastructure by the year 2000, will have a great impact on what universal service in the GII will look like.

Mrs Cresson emphasized that universality is not only a geographical issue, but also a cultural or social issue. 'If we look at our cities, if we look at our capitals, inner cities or suburbs, there are people who need to be taught from school upwards how to use these services', she commented.

Bruno Lasserre, Director-General of Postal Services and Telecommunications in France, felt there was still a long way to go towards any kind of universal service. 'I think we have to be both very open-minded but humble as well. Before we dream of enlarging the concept of a universal service, I think we need to consolidate what we have now.' He felt it was important to focus on the basic telephone service, before moving on to consider an enlarged universal service concept. First of all its financing has to be adapted to the new competitive environment and in general the methods of financing a universal service in the future have to be reconsidered.

Besides, Mr Lasserre added, governments should be very careful about what they mean by universal service and when they ask for it. 'To impose a universal service obligation on industry too early', he warned, brought 'a risk of penalizing economic investment [...] We can't do it too late either', he said, because 'consolidating exclusion means you would be leaving out a whole segment of our people'. Furthermore, he commented, any universal service would not be 'fixed and frozen in time' — citizens' expectations would inevitably increase as time went by.



The delegation from the United Kingdom

There was also general agreement that governments had a key role to play in stimulating the supply of services of public interest. Mrs Cresson examined the question of financing such services. 'Clearly, Member States will not be able to foot the entire bill there', she pointed out. 'However, [...] we also wish to ensure that these services can be used to help our citizens, health, education and the other areas mentioned'. Mrs Cresson suggested that 'if there is this rapid progress in the field of development of telecommunications', then some means might be found by which 'at least some of the profits should be channelled into the contents into the soft side'. She stressed that the idea was not to create 'an enormous bureaucracy in order to obtain the funds [...] in a centralized way'. In her opinion, this might 'stimulate the supply of services [...] and help develop the production of content and certain applications which may not be immediately viable given the scales involved'.

On this point, Mr Taylor expressed severe misgivings: 'If software proposals are not coming forward it is largely because there is not a wide enough market for them', he warned, adding that bringing an idea through to commercial reality 'requires a very considerable up-front investment and considerable risk'. Furthermore he

expressed the opinion that markets should be given the freedom to develop the appropriate tools, adding 'I think it is very dangerous for governments to try [...] to direct activities in the private sector towards socially desirable goals which they themselves are not sure about the market for'.

Mr Brown expressed similar reservations on imposing new forms of taxation, however, he certainly felt that 'there are ways that we in government can help shape demand, or drive demand'. In his opinion, the best way of assuring 'that we get where we want to go' was for government to highlight opportunities in this sector. Mr Brown related how, in the US, the government was funding pilot projects with the aim of showing people how the information society 'can change their lives', and as a result 'creating demand in those communities who haven't yet thought about these broader more esoteric issues'. The ultimate aim was to 'make a point to the private sector that there might be profitability in areas or in applications that they had not yet thought would be profitable'.



The delegation from the United States of America

It is primarily through applications that the benefits of the GII could be demonstrated and appreciated by everyday people, Mr Brown emphasized. He added that the G7 information society showcase gave an idea of the potential of current pilot applications. 'I see a number of demonstrations and exhibits in the course of my everyday life', he commented, going on to say that nevertheless what he had seen at the showcase left him 'almost overwhelmed by the potential [...] I saw a number of things that I hadn't seen before, certainly a number that I hadn't thought about before'.

'It seems clear', said Mr Brown, 'that by working together in creative [...] public/private partnerships, that we can apply information and telecommunications technology to a variety of critical and complex issues: The delivery of health-care services to remote areas or to distressed inner-city areas where health care might not be readily available. To provide educational services [...] closing some of the gaps that exist within our society, either within our own nations or in the less-developed parts of the world. I think we have a real responsibility to do that and certainly many opportunities to demonstrate that sense of responsibility'.

Mr Manley pointed out that there were a number of clearly defined options for governments in stimulating public interest services: monitor, cheerleader, or regulator; the question was, which would be most beneficial? 'It is obvious', he said, 'that the government cannot forecast the future any better than the private sector, probably less. What we can do is set a supportive policy environment that allows the private sector to achieve their goals and our objectives'.

Cornelia Yzer, Parliamentary Secretary of State in the Federal Ministry of Education, Science, Research and Technology in Germany, commented that there was a clear distinction to be made between areas where commercial interests will stimulate activity and those where governments should take a lead. 'Obviously the majority of uses will develop on a private, commercial basis which is entirely appropriate', she commented, and here the State should concentrate on creating framework conditions. However, governments must also accept 'that there are a number of areas where there is a clear obligation for the State to provide financing: education, health and certain areas of the environment'.

In Mr Taylor's view, the most valid role for government is 'in the interface between how the public sector uses technology and the infrastructures that are being set up for general use in the private sector'. Furthermore, governments can be proactive in stimulating demand, since, as Mr Taylor put it, 'If you take government as a whole, we are about the largest users of information in any one of our countries and in many cases we are one of the largest providers of information'.

As examples of how this approach has worked in the UK, Mr Taylor mentioned SuperJANET, an example of an ISDN network developed in partnership between universities and the private sector. It is being used as the basis for a pilot project in the education sector, linking 60 universities and some teaching hospitals and 'enabling high-definition visual communications which will help in long-distance teaching and in long-distance consultation in the medical profession'.

'Governments should try to encourage the broadest possible utilization of technologies, encourage the widest use of applications and in our own services show that we are prepared to take the lead and develop a network which can assist in the areas for which we are particularly responsible for spending taxpayers money', concluded Mr Taylor.

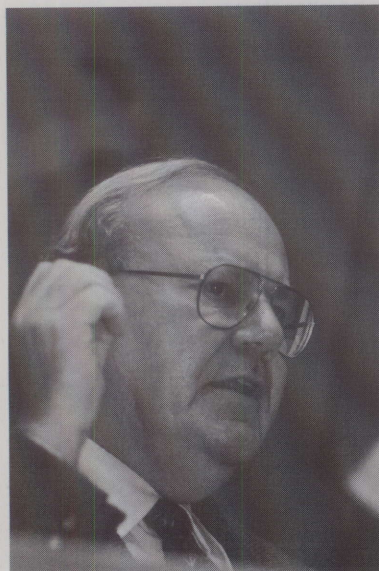
International projects: how should they be organized?

Last point of discussion was how to organize, on an international level, the pilot projects proposed by the Commission. All participants fully supported the idea of this kind of international cooperation and clearly considered the projects to be very important in demonstrating the benefits of new information and communications technologies.

Mr Brown believed that the II projects were ideas that the governments should really pursue and added that the list 'might even become longer as we together explore the potential'. Mr Brown felt that the projects served a number of purposes. They would:

- help to stimulate demand especially in the area of services of public interest;

- reinforce the ministers' open market and competition message;
- help to identify problems that still need to be solved, help to find ways of dealing with those problems and help to anticipate them;
- identify creative and dynamic ways to use new technologies and to solve global challenges that were identified during the conference;
- serve to identify barriers to the global information infrastructure and its various applications, for instance the questions of privacy and security of data, intellectual property rights and other legal and regulatory issues.



EU Commissioner Martin Bangemann

Mr Bangemann regarded the pilot projects as a 'key to the problem of how to bring together networks and applications' and also 'to the problem of what public authorities' political bodies can do [...] to promote these developments'. But most important, Mr Bangemann added, the pilot projects can help make such developments 'acceptable to ordinary people'. He commented that there was a degree of fear about 'an electronic world which is swamping us, that we will no longer know what the forests will smell like', fears that 'we'll all be entirely alienated [...] sitting at home in front of our screens with no sort of human contact whatsoever'.

Those pilot projects dealing with transcultural education, electronic libraries, museums and galleries and health-care cover are directly relevant to everyday life. 'I am personally convinced', Mr Bangemann said, 'that most people will be convinced of the value of what we are talking about when we relate it to their own health'. Other projects particularly cover the needs of small and medium-sized enterprises and can help to allay their fears that only the big enterprises will profit from the information society.

Moreover, there are projects which aim to encourage cooperation between governments, namely in the area of global management of emergencies. Given the frequency with which such catastrophes had occurred over the last few years, Mr Bangemann was convinced that projects dealing with environmental management, management of raw materials and maritime accidents were of vital importance.

Finally, Mr Bangemann mentioned the global inventory project, which he thinks would be of interest for all those involved in the development of the information society and could serve as a tool to bring the players together.

Mr Brown agreed with Mr Bangemann that it was easy 'to talk a lot to each other and to the private sector about what the new technologies mean, but the concern

is that it doesn't necessarily always filter down to [...] the average person'. In order to promote use and understanding and, to use Mr Bangemann's words, 'to reduce the fears of the average person', the United States Government has decided to launch a public education campaign.

This initiative, Mr Brown explained, offers the opportunity to 'talk to people at the local level of government and most importantly to the American people' about the potential use of this technology and to let them know what types of pilot projects are going on. In return, Mr Brown expected to get the necessary feedback so that the US Government can reach out to 'traditionally under-served audiences, such as rural communities, ethnic minorities or senior citizens' to make sure that they understand what these technologies are. Mr Brown's hope is that 'the knowledge about these technologies will empower what we're doing as a government, what's happening in the private sector and will finally empower the average citizen to better help us to develop policy and to better help us to develop the types of projects that could be used for the general public'.

Mr Brown felt personally that it was of the utmost importance to make the communications revolution available to the next generation, and said that the US Government's final goal was to extend the information highway to every classroom and every school in the country. Mr Brown hopes that this goal will be achieved over the next two or three years with an approximate expenditure of between USD 5 and 10 billion.

While agreeing unanimously on the enormous relevance of the G7 pilot projects, some participants wanted to ensure that the pilot projects fulfilled specific requirements.

Mrs Cresson emphasized that, as model projects, it will be essential to ensure that they set a real positive example. 'We have to make it clear to public opinion that we are not talking about technology for the happy few', she said.

To guarantee 'their smooth effective promotion', Mr Hashimoto asked the participants to agree on four requirements for the pilot projects:

- (i) They should be experimental and 'at the same time something that can be experienced by a large number of people'.
- (ii) They should stimulate the development of wide-ranging applications covering education, culture, environment, medical care, administration and industry.
- (iii) They should help to identify various institutional challenges including interoperability, privacy and security.
- (iv) Finally, they should make clear the responsibility of operational coordinators of the project, the role of participating countries and other participants.

'If we are to make the international joint projects a success, it is essential for all countries to clearly recognize these objectives, have the government take measures

to secure the financial resources and engage a broad range of human resources, technology and adequate levels of other resources including those of the private sector', added Mr Hashimoto.

Finally, Mr Hashimoto urged the G7 partners to ensure that the pilot projects and the use of information society applications would be opened up for the whole world including the developing countries and all those 'who will be able to create the solid foundation for the effective implementation of our joint projects'.

Mr Rossi felt that one method of ensuring that the pilot projects progressed smoothly and would be open to partners outside the G7 was to draft a Memorandum of Understanding for each project. This document, to be signed by any organization wishing to take part, would indicate in which way the various governments, other institutions and the private sector would be involved, and thus help to 'create an atmosphere, a dynamism of international cooperation which would be essentially of an open nature'.



EU Commissioner Karel Van Miert

Some of the participants, notably Italy's Industry Minister Alberto Clò, Mrs Cresson and Mr Bangemann approved of the idea, however Mr Brown and Mr Rexrodt had doubts about its usefulness.

Mr Rexrodt asked the G7 partners to consider very carefully whether such a Memorandum of Understanding would be helpful or if it would be more likely to complicate international cooperation: 'it impedes your free movement and we need freedom and maximum movement, maximum flexibility'. Mr Rexrodt warned that formalizing such cooperation in such a way would confine partners 'to certain procedures and oblige them to go through certain phases', resulting in 'a great deal of bureaucracy which would be to the detriment of spontaneity'.

Mr Brown felt that a Memorandum of Understanding might well be useful, but preferred the G7 to encourage a less formal approach to international cooperation. Mr Brown explained that 'the history of networking has demonstrated that grass roots and bottom-up kinds of approaches have always worked better than top-down approaches'. The example of the Kobe earthquake, he said, demonstrated what could be achieved by 'grass roots volunteers who had access to technology'.

Mr Bangemann emphasized that a Memorandum of Understanding would be useful as a tool to encourage understanding especially among international organizations. It could be helpful in providing better coordination in terms of standardization and other regulatory issues.

Mr Clò felt that there was a place for a Memorandum of Understanding in operational terms, but rather as a means of formalizing agreements after they have been shown to work. In his view this should be a three-phase programme: 'The first phase would be to settle and finalize the projects which have already been identified in the G7. The second phase would be to open up projects to outside countries who may be interested. The third and final phase would be to formalize the launching of these projects by means of a Memorandum of Understanding'. This methodology, he felt, would allow 'a proper balance between the role of governments and market forces' to be reached.

Mrs Yzer stressed the distinction between projects in areas where commercial interests would stimulate activities and those where governments needed to take the initiative. 'In those where there is an obligation for the State to provide funding, the type of cooperation we seek will be different from those areas which will be determined by private enterprise, by the market.' Were governments to become involved in the latter, she warned, 'the effect would be above all to inhibit development'. She asked that a clear 'demarcation line' be drawn.

Finally, Michel Dupuy, Minister for Canadian Heritage, stressed that governments should be able to promote cultural and linguistic diversity. 'However, if what we seek is diversity we need to be able to enrich our own national heritage as well as [...] to share it with others.' In Mr Dupuy's opinion this meant that governments should not only be open to content 'from the entire world' but it also means that 'as far as our creators are concerned they must be sure that they can have access to their own market and to the global market'.

Session III

An information society devoted to the people

In addressing the social and employment issues arising from the information society, the ministers covered a number of key questions. As the Chairman of the third session, Mr Bangemann, put it, there were three main issues for discussion:

- **The implications of information society services for the quality of life of the consumer**

What effects — positive or negative — will these new infrastructures and services have on culture, particularly the more vulnerable or minority cultures? Should any action be taken to ensure that these cultures continue to flourish and develop?

- **Avoiding divisions in society**

How can we ensure that the benefits of the information society are made available to all? How can we promote a harmonious and cohesive society while minimizing the potential for division between the 'haves' and the 'have-nots.' This is crucial not only within societies and nations but also between nations — particularly between the industrialized countries and the non-industrialized countries.

- **Effects on employment**

Will the new opportunities presented by the information society create new jobs in sufficient numbers to offset the job losses that may accompany liberalization?

Effects on quality of life: How to ensure cultural diversity?

Commencing the debate, Mr Dupuy commented that it was a Canadian, Marshall McLuhan, who first examined the growing influence of communications, media and technology. McLuhan predicted that the world would be transformed into a global village. 'This expression', commented Mr Dupuy, 'so captivated the imagination of

our time that it is now firmly established not only in the languages of those of us around this table but also in our thinking; in fact, it is the reason we are here.'

Parallel with the creation of the information superhighway, Mr Dupuy said, it was vital to establish the 'rules of the road'. However, in doing this, Mr Dupuy reminded participants to give themselves the 'flexibility to be global in our goals and individual in the way we implement them.' The information highway, he asserted, had the potential to become 'the most prestigious cultural showcase of all time'. Therefore Mr Dupuy warned against taking the issue of content too lightly. The information highway 'should not thrive at the expense of national cultures and identities', he said, adding that it should 'neither be a vehicle of cultural harmonization nor a mechanism for one kind of monopoly or another. It must instead embrace a diversity of international prospectuses and languages for the benefit of all citizens'.

Mr Clò was convinced that the information society offered the potential to enrich the artistic and cultural heritage of all countries. He quoted the example of Italy, which according to Unesco 'holds 60% of the artistic wealth of the world'. These riches, he said, must 'be considered the common heritage of humanity', that should be available for all to enjoy, therefore 'its exploitation must be guaranteed by the proper use of technological and financial resources'. For this reason, Mr Clò commented, Italy would give particular support to the information society pilot project on electronic museums as proposed by the European Commission.

Marcelino Oreja, EU Commissioner with responsibility for culture and audiovisual media, stressed the importance of slowing the trend towards what he called the 'standardization of our societies' and highlighted the need to ensure 'respect for the diversity of our countries and our cultures'. He commented that the most effective response to the danger of 'cultural standardization' was for each culture to encourage and develop their content industries: 'we need to promote the multiplicity, the diversity and the richness of the products that will circulate on the highway — the information society should lead to a greater abundance of content. It should also aim at quality'.

This latter point was also emphasized by Mr Rossi. In his view, 'the best guarantee for our society against uniformity is via the provision of content of as broad a range as possible, making it possible to have innovation and a meeting of different minds and ideas'. The content industry, he hoped, would promote growth and create jobs. 'We don't want it to be restricted just to a few major actors', he emphasized: 'that is not how we are going to get pluralism and the freedom of choice.' This guarantee of pluralism and freedom of choice, Mr Rossi added, will also depend on governments' capacity to enforce the respect for intellectual property rights (IPR), because creators of content 'must be sure that they are going to get a return on their investment through all of the stages of the chain of production'.

Mr Rossi emphasized that pluralism and freedom of choice must also be expressed in the use of language. 'Languages are wealth. They are an instrument of democracy and the information society should not drag us towards a single language.' The development of language technologies should make it possible for everybody to 'avail themselves of the services in their own language'.

Mr Taylor also believed that the content industry had the potential to enhance cultural diversity, drawing an analogy with the publishing industry. As he put it, 'the increasing ability to publish rapidly [...] in different colours and different forms has brought more and more magazines onto the market. So you can now buy more magazines which take a precise interest in your leisure interests, your home activities, your education interests and your business interests than ever before'. He felt that the danger of cultural uniformity was overstated: 'I don't think it is necessary to say that the information super-highway is going to bring a sense of uniformity. In fact, the technology, the increasing access and the desire of people to make use of that access is probably going to create increased diversity'.

In response to Mr Rossi's concern that cultural pluralism needs to find its expression in linguistic pluralism, Mr Taylor commented that in many cases technology could provide an answer to as many problems as it raised. 'In a sense technology can be a friend as well as a threat', he said. 'For example, it is possible through technology to target individual homes with a programme that they want. It is possible in multimedia [...] to have the resource base in a variety of languages which can then be used by the particular person who wishes to have it in French or Spanish or any other language'.

Mrs Yzer felt that the social impact of the information society required further examination: 'we in Germany would like to have a specific symposium with international participation to discuss models of an information society from the point of view of the social values which are at stake and the possible change in social values which may arise'. In addition, it was her opinion that the question of 'maintaining our cultural heritage' should also encompass the preservation of resources. 'This is also a matter of increasing concern for our citizens and the fact that information technology can be put to the service of mankind in this way, I think, is an aspect to which we should draw attention', she concluded.

In response, Mr Taylor reiterated his belief that 'it is not the government's job to try to sit in judgment of what the information society should be'. As a result, he did not favour the creation of a 'thought group' aimed at developing 'a model for the information society'. However, he added, governments should think about how 'to try to stimulate thought within the industry itself'.



EU Commissioner Pádraig Flynn

The US delegation shared Mr Taylor's belief that the sheer abundance of content on the global information infrastructure will of itself increase choice and increase exposure to culture. This was underlined by a reference to the history of radio and TV broadcasting in the United States, where 'in those markets where there are 5, 10 or 12 radio stations, you do get relatively homogeneous types of culture', whereas 'in communities with hundreds of radio stations', far greater diversity was on offer. With TV the experience was similar: 'most markets two decades ago had only four or five commercial broadcast channels and again they were mainstreaming programming', while today with hundreds of cable channels now available it was possible to find a variety of different cultural viewpoints: 'in Los Angeles there are Arabic channels, there are Asian channels, there are Hispanic channels, there are channels which are promoting the interests of the black community'. Perhaps even more important, the delegate added, is the fact that these channels are not only watched by their target audiences, but themselves act to promote cultural awareness: 'as you are surfing through the cable you are exposed to cultures and to visions and to views which you would not otherwise have a chance to view'.

The Internet was cited as 'another great example of how capacity is going to breed more choice and more sharing of cultures'. The quantity of cultural information available was staggering: 'I have been able to find Vancouver museum and some other Canadian culture by going on the net', commented the delegate. 'There is now a web site of native American art. In preparing for my trip here — I don't know if this is culture or not — I was able to find a Belgian beer page, so that I could find out what beers I might want to try here in Belgium'. He concluded that 'we are in the nascent stages of this global information infrastructure. It is going to become more abundant, it is going to become more capacious, it is going to become more readily available to average citizens, and as it does we think it is an opportunity to preserve our cultures, to share our cultures and to educate our populations about the wealth of cultures that this world has'.

Mr Brown believed all nations would be able to benefit from the creation of a truly global information infrastructure (GII). It offered to all, he said, the prospect of 'sustainable economic progress, strong democracies, better solutions to global and local environmental challenges, improved health care and ultimately a greater sense of shared-stewardship of our small planet'. Mr Brown added that although the United States is committed to ensuring that cultural and linguistic sovereignty is respected in the development of the global information infrastructure, he does not believe that the best way to protect culture and language is to impose rules and regulations that 'disrupt the free-flow and free-play of market forces'. In the view of the United States, he said, 'the most effective way to promote mutual understanding and cultural enrichment' is by 'encouraging the circulation of content [...] on a non-discriminatory basis'.

Mr Manley developed the points made by Mr Taylor and the US delegates, claiming that the information society and the multiplicity of services that it makes possible represent a 'fundamental paradigm shift', which 'we mustn't squander'. In Mr

Manley's view the quantitative impact of the new technologies will of itself create a qualitative effect: 'what has happened is that for much of the time that mass media has existed it has been based upon a very limited spectrum supply which has been rationed, particularly in North America, among networks. The breaking down of that limitation on supply provides the opportunity for production on a scale, and diversity on a scale, which has previously been unknown'. The key problem is one of ensuring the appropriate level of competition, since the developments in technology that provide these opportunities could equally lead to an anticompetitive structure, in view of 'the potential for vertical integration of production, particularly of multimedia production, which in turn will suppress the very diversity which [...] the new technologies put before us'.

Mr Oide warned that such an abundance of information coursing through an information infrastructure of global proportions might have effects which were not all positive. He commented that 'one wave full of information could undermine the cultural as well as social identities of nations'. Furthermore, he said, 'different views on the moral values and public order may result in new frictions internationally'. Therefore, Mr Oide believed it extremely important to strike the balance between 'the circulation of information and the diversity of culture', while still striving for world economic growth through the 'promotion of free trade'. He added that it was also vital to guard against a 'global imbalance of information' by 'enhancing the information-transmitting capabilities of developing countries in particular'.

How to avoid divisions in society between the 'haves' and the 'have-nots'

Mr Oreja identified three main areas of concern. He stressed the importance of ensuring that the information society does not enlarge the gap between 'information-rich and information-poor'. He said that a priority should be placed on slowing the trend towards what he called the 'standardization of our societies'. He also stressed that it was vital to overcome the 'feeling of anonymity of contemporary man'. These issues he linked to the need to ensure 'respect for the diversity of our countries and our cultures'.

Doing this, Mr Oreja said, required two things: first, and foremost, he emphasized that it was essential to make sure that 'access to the information highways is as open as possible'. Secondly, it is necessary to ensure that we 'retain the mastery of technological development by making it serve our own human purposes', by ensuring that the tools 'are simple and flexible to use and offer to the user as wide a choice — and as many functions — as possible'. In this way, he asserted, it was possible to encourage people to become 'active and creative users of the highway rather than passive and manipulated consumers'. This, he continued, 'implies educating the users as users'. Finally, he commented that the most effective response to the danger of 'cultural standardization' was for each culture to encourage and develop its content industries: 'We need to promote the multiplicity,

the diversity and the richness of the products that will circulate on the highway — the information society should lead to a greater abundance of content. It should also aim at quality’.

Mr Oreja pointed out that as a result of the globalization of our societies, we are increasingly facing the same major economic and social problems everywhere. ‘But whereas the problems are the same, the solutions, if they are to be effective, must take into account the cultural context in which they apply. Through socioeconomic programmes we must find social/cultural solutions’, Oreja explained.

Moreover, these highways should become ‘friendly spaces conducive to creating new social links and to fostering the feeling and reality of citizenship’, Mr Oreja said and added that ‘these new spaces open to everybody and everything will need rules of conduct, codes of behaviour’. He insisted that a wide-ranging debate was needed

to give ‘in-depth consideration of the subject’, commenting that ‘a market without rules is extremely dangerous [...] I am convinced in this respect that ethics and law must be present in the information highways’.

Mr Clò emphasized that governments were facing a profound revolution which would affect all aspects of social life. They should as far as possible ‘avoid the risk of widening the present inequalities within countries and in the relations between countries’. Mr Clò therefore defended the idea of universal services and affordable tariffs for these services.



EU Commissioner Marcelino Oreja

Moreover, he said, governments must assess the social and cultural implications of the information society. ‘We must be in a position to understand what is likely to happen before it occurs’, said Mr Clò, adding that governments must take the responsibility to steer the process of change. The freedom of the citizen must be at the forefront of governments’ concern, he said. This meant ‘linking the developments of technology and the market with maintaining equality of opportunity for our citizens, equality of opportunities for professional and cultural development, full participation in the productive process and free access to knowledge’.

Mr Oide supported Mr Clò’s opinion on the importance of universal services, adding that there was a grave possibility that ‘disparity both socially and economically’ may result, depending on ‘whether one has the access to information or not’. However, he added that there must be an educational element too: universal — and inexpensive — services must be combined with the ‘nurturing of information literacy’, particularly among the socially disadvantaged. Only in this way, Mr Oide said, would it be possible to ensure ‘equal opportunities regarding information for everyone’.

Mrs Yzer also insisted that some affirmative action was needed to ensure the broadest possible access to information: 'the dynamism of the information society does not automatically mean that there will be basic coverage of needs and so it is important that we establish the framework in order to improve access to information, both in the European Community and in the other countries'.

Mrs Cresson believed that, given current developments, 'guarded optimism' would be appropriate. The information society, she said, would mean that people wasted less time travelling, or carrying out repetitive tasks, and will thus give them more control over their time. Moreover, she claimed, it would be instrumental in improving relations between people, to 'bring people back together and revitalize existing communities'. As an example she referred to the Minitel system in France, which provides access to more than 300 different services and enables users to make contact with people they have not known before. Mrs Cresson emphasized that therefore 'we need to ensure that we have proper interconnections. We have to ensure that everyone knows how to use these systems'. Mrs Cresson added that it is important that from school upwards people learn how to derive maximum benefit from the possibilities open to them.

Mr Manley warned the participants to be realistic about what the information superhighway could deliver. 'It is my own view', he said, 'that the Internet perhaps promises more than it delivers'. It was 'of great interest to those who have found their way onto it', he acknowledged, but 'I don't think we should be misled by the fact that it is broadly popular within a certain level of society to think that the result [...] will be a highly interactive medium'. In his view the North American experience tended to show that 'the consumers of many information highway products will still tend to be relatively passive'. He expressed concern that the Internet, like other tools on the information superhighway would remain a 'preserve of aficionados', limited to 'those who have the time and inclination to overcome what continued to be fairly significant technological barriers to the average person to acquire access to it'.

Mrs Cresson suggested that the European Commission's commitment to 'lifelong learning' offered a possible approach to combat this problem. 'It is true that people tend to become couch potatoes, sit down in front of the TV and absorb what is on offer rather than becoming interactive'. Lifelong learning, she said, was aimed at enhancing peoples' professional skills and capacity, but also at encouraging them to 'develop their critical skills', to help them become 'aware citizens'.

Mr Brown also believed it vital to 'break this cycle of passive consumerism', to 'create an interactive environment'. He fully supported the idea that education would help, however he did not accept Mr Manley's contention that the information highways would remain a plaything for aficionados. As an example, he cited the experience of a junior high school in Harlem, New York, where most of the students were from low income families and 'really weren't coming to school'. They were 'coming late and leaving early', he said, 'until they were exposed to these new

technologies'. Now, he said, 'They have a thirst for knowledge which didn't exist before. They are coming to school early and staying late'. Mr Brown concluded that the introduction of new technology 'has made a tremendous difference in their lives. And that difference was made only because they were exposed to this new technology. They didn't have access to it before'.

Effect of the information society on employment: will jobs be created in the long term?

Starting the discussion on the final theme of the third session, Mr Brown emphasized that job creation touches on the most important component of any information infrastructure: the human component. 'As has been stated a number of times', he said, 'we recognize that the globalization of the economy, that new technology — not only telecommunications technology but technological advances in a whole range of areas — has created not only insecurity but displacement.' He believed strongly that there is a critical role for governments to make the benefits of advanced technology real and apparent to the people who will use it, because the 'value of a global information infrastructure will be determined by how people benefit from it'.

Mr Brown believed that the development of the GII and the transition to the information society will have a 'significant impact on the global economy'. The GII will not just be about building new communications and information capabilities but will be about helping companies, both large and small, to engage in a wide variety of endeavours, 'to do their work more efficiently and to reach new markets around the world'. Today, Mr Brown explained, the telecommunications sector is the world's largest commercial sector, having surpassed automobiles and petroleum on a total value basis. 'In fact in the United States 1 out of every 10 dollars that is spent is being spent on telecommunications and information services'. He believed that it was the 'competitive market principles' which had led to lower prices and to 'more choices for the consumer, to innovation, to creation of new industries and additional jobs and to a more efficient economy'.

Mr Brown had no doubts that employment gains resulting from competition more than offset the job losses. He quoted a recent OECD report which concluded that 'jobs seem to be growing fastest in the most competitive market segments'. To underline this statement Mr Brown presented more figures from the United States telecommunications market: employment in the long distance market for example has 'grown 18% since 1987'. Over the last decade mobile services have experienced 'compound annual growth of more than 50%' and 'over 200 000 jobs have been created in our domestic mobile service alone'.

Companies such as AT&T and Nynex that have been directly affected by pro-competitive regulation have reported that despite the dramatic changes associated with these policies, there has been a 'net increase in job growth'. Mr Brown stated that 'from 1988 to 1992 our three largest long distance carriers increased

employment by approximately 15%. Even in our highly competitive market', he went on, 'our Council of Economic Advisers has estimated that further increases in competition could yield approximately 1.4 million new jobs in this sector alone over the next 10 years'. The potential for job creation and increased productivity as a result of the information society, he said, 'is indeed enormous'.

'While some displacements may occur overall', Mr Brown continued, 'the GII will help to create new jobs and investment opportunities that did not exist just a few short years ago. For example the personal communications industry or PCS is expected to create up to 300 000 new jobs. Productivity in the information technology sector is increasing at a rate of 30% per year. All industries will use information and communications technology more intensively in research, in design, in manufacturing, in distribution and in marketing. Specifically, information and telecommunication technology is used to cut costs and improve quality and reduce time to market'. Even sectors of the economy traditionally viewed as low-tech, such as textiles and apparel 'are adopting demand-activated manufacturing to respond rapidly to changes in consumer demand', he reported.

'It is now estimated', continued Mr Brown, 'that fully two thirds of all American workers are employed in information-related jobs. The Clinton Administration is taking a number of steps to promote the electronic commerce and manufacturing applications of our national information infrastructure'. President Clinton has 'directed all of the agencies of government to procure goods and services online, which will encourage small and medium-sized companies to adopt electronic commerce'. Matching funds have been provided for a number of industry consortia to develop electronic commerce applications including electronic payment.



EU Commissioner Édith Cresson

The GII, Mr Brown asserted, can offer consumers in every country unprecedented access to information from a diversity of sources on a global scale. He drew attention to the 'astonishing growth' of the global Internet computer network 'of over 10% per month for more than five years', adding that this 'demonstrates a growing demand and supply of digital information'. This growth, he said, was itself creating an unprecedented demand for information, for entertainment and educational products. 'Building the GII will only increase this demand', he said. 'The telecommunications centres of our various economies are not only dynamic growth sectors. They are also engines of development and economic growth in other sectors of an economy. I believe that building out our telecommunication infrastructure in fact makes all of our economies more productive and more competitive'.

Mr Oide commented that in Japan, the issue of the employment implications of the information society had proved to be highly controversial. The debate on this

subject had led to the publication of a report entitled 'Reforms towards the intellectually creative society of the 21st century', submitted by the Telecommunications Council of the Ministry of Postal Services and Telecommunications in May 1994.

The report, said Mr Oide, estimated that the information society will create a new market worth approximately YEN 123 trillion. To give an idea of scale, Mr Oide explained that NTT, the largest telephone company in Japan, had a sales turnover of YEN 5 trillion, while the Toyota motor company had overall sales of about YEN 6 trillion. Therefore, said Mr Oide, a market of YEN 123 trillion represents 14 or 15 of the companies the size of NTT and Toyota. Mr Oide conceded that 'there are various views regarding these estimates', but continued that such a market would mean the creation of some 2.43 million additional jobs in Japan by the year 2010.

Pádraig Flynn, EU Commissioner with responsibility for social affairs and employment, commented that governments should not be 'starry-eyed' about the potential of the future information society. He did not share all the optimism expressed by speakers such as Mr Brown. 'Of course it is vital that we clear away the technical and the regulatory barriers in order to promote growth and competitiveness', he said, 'but technological and economic developments alone are not enough'. To let market forces alone decide our future, he said, will not be sufficient to make the information society a success. 'Our aim should be an information society with the potential to create more jobs, better work and a higher quality of life for our people. Simply said: social inclusion not exclusion'.

Therefore, he insisted, a social agenda for the information society was needed. 'The top priority must be combating unemployment', he said, 'but we also have to avoid the dangers of the dual society based on unequal access to information, skills and knowledge. We have to put technology on tap not on top.' Mr Flynn asked governments to ensure that 'the information society develops with the support of the citizens, not in spite of them'.

Governments should learn to face up to and to manage the real problems the information society will bring: 'In its early phase it will almost certainly bring with it job losses in certain sectors, though it will of course have tremendous possibilities for new job creation'. Mr Flynn continued: 'we can and we must shape the future information society, and we should ask ourselves not just how much employment will be generated by new information services but how we can minimize job losses in the short term'. Moreover, job creation should be optimized 'right across the whole economy', not just looking at what skills are required by the new industries but also considering how to 'capitalize on people's talents' to ensure that they are not 'simply locked out'. Governments should consider not just where the global information infrastructure will create jobs but also how all regions can actively participate and benefit.

Besides changes in the quantity of jobs available, Mr Flynn reminded the participants that there will also be changes in the quality of employment in the information society. Changing work patterns will raise new issues: 'If most new jobs are going to be either high-skill information work or low-skill services, we risk social fragmentation and a two-tier workforce as the middle ground is just simply swallowed up'. Mr Flynn continued that 'workers of all types are reporting greater stress levels', often associated with work intensification and badly implemented information and communication technologies. 'We must channel our energies into creative solutions to these challenges', Mr Flynn said. However, he reminded participants that it is not only information technologies that are adaptable: 'let us not forget that so are people. Flexible firms compete by making more work and better work. Quality as well as quantity'.

According to Mr Flynn these problems should be tackled by encouraging debate and discussion with employers and with trade unions and beyond. In this context he mentioned the high-level group appointed by the European Commission with the task of examining the social and societal dimensions of the information society and how its advantages can be maximized. 'We examine so that we can understand and we examine so that we can better control', commented Mr Flynn.



EU Commissioner Mario Monti

As a further measure, the European Commission was providing financial support for the upskilling and reskilling of the workforce and the modernization of education and training systems. 'In particular', said Mr Flynn, 'we aim to offset the exclusion threatening the under-qualified: people in less-favoured regions and women who are often just at the end of the queue for jobs and prosperity'. At the same time, Mr Flynn continued that the implications of the information society on employment were more complex than the equation 'Automation equals job losses' might suggest. 'We're talking here about de-skilling, we're talking about discarding and we must not minimize their human impact'. Old people and poor people are, according to Mr Flynn, just two of the groups in society who risk being 'left out' of the information society: older people 'don't cruise' and 'can't cruise' the Internet, he said. 'It's a different language, it's a different context, it's a generational cut-off for them'. For poor people, it was a fact that 'you have to be in the know to benefit'. Mr Flynn warned that it was vital to avoid the tendency towards a 'two-tier' society.

Mr Rossi endorsed both the statements of Mr Brown and Mr Flynn, agreeing that the information society would exert both positive and negative effects on employment. However, he said 'there are areas where there will certainly be positive effects and I think we should lay the emphasis on those'. Improved training, he said, would reduce internal barriers in the labour-market by improving people's skills. Secondly, according to Mr Rossi, governments should concentrate on town

and country planning in order to ensure that isolated regions become better integrated. The use of new techniques on the information highways, he said, should tend to reduce geographical and social disparities and help to create or to protect jobs in less-advantaged regions.

Mr Manley further developed Mr Flynn's comment on training by saying that governments should concentrate 'to a very great degree' both on the creation of jobs and on 'the preparation of our people to fill the jobs that are created'. Access to information may be necessary to achieve this, but of itself is not sufficient. 'Our people are only going to benefit from access to the information society if we have provided them with adequate skills and training, to find their way into the new kinds of employment that will be created by the new technologies'. It is not going to be sufficient to provide access to the information highway to a population 'whose literacy and numeracy skills continue to be very limited, and that, I am sad to say, is very much the case, particularly in North America'. He concluded that 'to, in fact, take learning out to where the people are' is what governments need to seize upon in the future.

Mr Bötsch said that the information society will undoubtedly not only increase employment but will also have an impact on the division of labour in our societies: 'I feel that there will be benefits in terms of employment but these benefits will require a willingness to change, in terms of people's attitudes and mentalities and behaviour and mobility. We have to make it clear to people that they have to be prepared to adapt to these new possibilities'. Mr Bötsch added that as long as people are willing to adapt, governments can be confident that the outcome, as regards employment, will be positive.

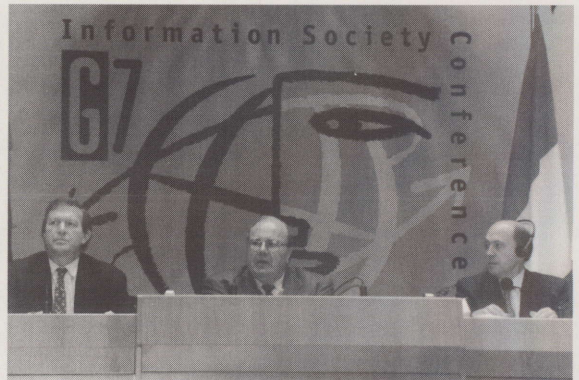
However, continued Mr Bötsch, it was necessary to be realistic about the impact on employment of liberalization and the removal of monopolies. On the one hand, he said, it was obvious that 'the monopolies are not going to create new jobs', rather the contrary: 'If we maintain monopolies, what we can be sure is that in the long run, because of pressure from elsewhere in the world, jobs would be lost'. On the other hand, as the day of the monopoly is 'drawing to an end', he acknowledged that there would be an uncomfortable interim period 'until competition is fully up and running', during which 'at least in the short term, jobs will stagnate and possibly be lost'. However, said Mr Bötsch, 'as more and more is available in terms of supply on the telecom market we can ensure that not only the loss of jobs will be halted but that the tide will be turned and new jobs will be created'. Therefore, Mr Bötsch believed that at least in the longer term there was a positive message for workers and unions.

Mrs Cresson agreed that many workers in monopolies 'feel that there is more to lose than to gain from the end of these monopolies'. Therefore, she said, a clear 'message of hope' should be given that governments were not standing idly by. Over the next few years, the Commission would be working in cooperation with universities and research institutes to examine the social and cultural impact of new

technologies. 'We have to be in a position to popularize this change', Mrs Cresson said, adding that moreover 'this research must be based on social dialogue'. Therefore, the trade union movement should be involved so that their suggestions could be heard and their fears answered.

Furthermore, Mrs Cresson asked governments to 'instil a spirit, a climate of hope, in the sense that there are these potential jobs and these new methods of expression with these new technologies'. It was vital, she said, to underline the highly skilled jobs related to the new technologies, primarily in the software industry. It must be made clear, she said, that the employment gains in this industry will be quite considerable and that 'these skilled jobs are not so easy to dislocate as was the case in the traditional industry'. According to Mrs Cresson, what sets these new industries aside from traditional sectors that have seen displacement to developing countries is their cultural specificity. 'These new industries need to have cultural roots which are very close to us, and it is in this area that we can hope both to create and to preserve jobs'. Moreover, in the area of product software development where there is a significant deficit in Europe, Mrs Cresson felt that there were great efforts still to be made.

Mr Brown commented that all of these developments meant that 'we have to be increasingly sensitive to the plight of our workers'. He gave examples of US companies that had taken a creative approach to restructuring, while admitting that 'they are not ways that all of our private sector leaders are willing yet to use'. One example was that of Nynex. 'This was a former monopoly which was opened to competition and initially had to reduce its workforce but was determined to do it without lay-offs'. The company put together a programme to pay for workers training in information technology while also continuing to pay their health insurance. Moreover, Nynex paid for college tuition 'in order to prepare workers for the jobs of the future rather than the obsolete jobs that were being lost'. Mr Brown was convinced that such models could be used by governments to encourage private-sector leaders to deal with their workers in ways that focus on the human element without risking productivity and competitiveness. Mr Brown believed that other models existed in other countries and suggested that the partners got together 'to share information, data and experiences'.



The final press conference with Günther Rexrodt, Martin Bangemann and José Rossi

Annex I Conclusions of the G7 Ministerial Conference

Annexes

... of G7 leaders as they meet in London for the 1995 summit...

A new vision of human development

... of the human development approach...

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Annex I

Conclusions of the G7 Ministerial Conference

Following the remit of G7 leaders at their Naples Summit in July 1994, ministers from the G7 countries and Members of the European Commission met in Brussels on 25 and 26 February 1995 at the G7 Ministerial Conference on the Global Information Society.

A shared vision of human enrichment

Progress in information technologies and communication is changing the way we live: how we work and do business, how we educate our children, study and do research, train ourselves, and how we are entertained. The information society is not only affecting the way people interact but it is also requiring the traditional organizational structures to be more flexible, more participatory and more decentralized.

A new revolution is carrying mankind forward into the information age. The smooth and effective transition towards the information society is one of the most important tasks that should be undertaken in the last decade of the 20th century. The outcome of this conference shows that G7 partners are committed to playing a leading role in the development of the global information society.

Our action must contribute to the integration of all countries into a global effort. Countries in transition and developing countries must be provided with the chance to participate fully in this process as it will open opportunities for them to leap-frog stages of technology development and to stimulate social and economic development.

The rewards for all can be enticing. To succeed, governments must facilitate private initiatives and investments and ensure an appropriate framework aiming at stimulating private investment and usage for the benefit of all citizens. They should also create a favourable international environment by cooperating with the relevant international organizations such as the WTO, ITU, WIPO, ISO, and OECD.

***Our vision can only be realized
by means of collaboration***

G7 partners are resolved to collaborate on the basis of the following eight core principles in order to realize their common vision of the global information society:

- (i) promoting dynamic competition;
- (ii) encouraging private investment;
- (iii) defining an adaptable regulatory framework;
- (iv) providing open access to networks;

while

- (v) ensuring universal provision of, and access to services;
- (vi) promoting equality of opportunity to the citizen;
- (vii) promoting diversity of content; including cultural and linguistic diversity;
- (viii) recognizing the necessity of worldwide cooperation with particular attention to less-developed countries.

These principles will apply to the global information infrastructure by means of:

- promotion of interconnectivity and interoperability
- developing global markets for networks, services and applications
- ensuring privacy and data security
- protecting intellectual property rights
- cooperating in R&D and in the development of new applications
- monitoring of the social and societal implications of the information society.

An information society devoted to the people

Policies aimed at a rapid and successful transition to the information society must ensure the highest possible levels of participation and avoid the emergence of two classes of citizens. Universal service is an essential pillar in the development of such a policy strategy.

The creation of jobs and improvement of the quality of work are of paramount importance. The policy process must be backed up by collaborative research at an international level to investigate the impact of information and communication technologies and services on employment.

The information society should serve the cultural enrichment of all citizens through diversity of content reflecting the cultural and linguistic diversity of our peoples. The private sector should therefore develop and build information networks with abundant capacity to accommodate a wealth of information, both locally produced and that developed in other regions and nations.

The knowledge-based economy demands greater openness and creativity in schools and universities, and the acquisition of new skills and adaptability through lifelong training. An open approach to education that combines local and national cultures and promotes mutual understanding between our citizens is required. Access must therefore be tackled at its roots by providing citizens with the tools to learn in an information society. Advanced multimedia information services can meet such requirements while complementing and enriching the traditional education and training systems.

The information society is a new, complex and abstract concept and as such it requires considerable effort in promoting public awareness and understanding.

G7 partners are determined to ensure that the information society addresses the needs of citizens. They have committed themselves:

● **To promote universal service to ensure opportunities for all to participate**

By establishing universal service frameworks that are adaptable, they will ensure that all citizens will have access to new information services and thus be able to benefit from new opportunities. They will evaluate the impact of information services and technologies on society using existing organizational resources. Strategies to prevent marginalization and to avoid isolation will be developed.

● **To study the impact of the information society on jobs**

They encourage the OECD to complete its work on the effects of information technology on employment. In addition, the OECD is invited to launch a complementary study on the employment impact of information services. Academia, government and the private sector should expand their efforts to assess the impact of the information society on the economy, trade and the workplace. Research on employment effects will provide valuable input for policy decisions.

● **To serve cultural enrichment for all citizens through diversity of content**

Citizens should be provided with access to all content, including a strong presence for indigenous cultural products and services. Diversity of content, including cultural and linguistic diversity, should be promoted.

● **To encourage private sector development of information networks and provision of new information-related services**

They will pursue worldwide cooperation in encouraging the development of a global information infrastructure to stimulate the creation of an abundant capacity to accommodate and to enable a diverse mix of content for all citizens.

● **To pursue adequate education and training**

They will exchange information on new ways of educating, training and retraining. Information technology training should be integrated into the regular school system. The development of vocational training on information technologies will facilitate the adjustment of workers to structural and organizational changes throughout their lives.

● **To improve the understanding of effects on the quality of life**

They will encourage projects and joint actions, in particular to demonstrate the possibility of flexible and better quality of work, improvements in health care, educative leisure, urban development and greater participation of the disabled in society.

● **To foster public support by raising awareness and understanding**

They agree to exchange experiences on the best means to raise public awareness and sensitivity towards the global information society.

● **To encourage the dialogue on worldwide cooperation**

They call on industrialized countries to work towards the participation of developing countries in the global information society.

Current regulations need to evolve

The regulatory framework should put the user first and meet a variety of complementary societal objectives. It must be designed to allow choice, high-quality services and affordable prices. It will therefore have to be based on an environment that encourages dynamic competition, ensures the separation of operating and regulatory functions, as well as promotes interconnectivity and interoperability. Such an environment will maximize consumer choice by stimulating the creation and flow of information and other content supplied by a wide range of service and content providers.

Open access to networks for service and information suppliers and the mutual enrichment of the citizen through the promotion of diversity, including cultural and linguistic diversity, as well as the free expression of ideas, are essential for the creation of the global information society.

Competition rules need to be interpreted and applied in the light of the convergence of new technologies and services, market liberalization and encouragement of new entrants, and growing global competition. Competition

authorities should not prohibit the emergence of global players. Productive forms of cooperation to promote economic efficiency and consumer welfare should be allowed while shielding against risks of anti-competitive behaviour, in particular risks of abuse of market dominance.

G7 partners are therefore committed:

● **To ensure citizens' access through universal service in the respective markets**

This will require consultation on both the scope and the means of providing universal service, especially with regard to its financing, while ensuring that the development of networks and the provision of services can be carried out without undue burden on any actors.

● **To open up markets to allow the development of global systems**

This is to be accomplished by pursuing liberalization of services, infrastructure, equipment procurement and investment, within an appropriate framework. Special emphasis should be given to the negotiations in the WTO, notably on such sectors as basic telecommunications, which are important to see concluded successfully by April 1996.

● **To pursue the interconnectivity of networks and the interoperability of services**

This is to be achieved through the promotion of a consensual standardization process which is market-led and which encourages open interfaces. Cooperation amongst all actors should be built on private-sector-led dialogue aimed at identifying critical interfaces. This should be backed up by swift tests and trials to identify appropriate standards corresponding to the critical interfaces. Accelerating the standardization process conducted by international bodies will contribute to developing timely and market-responsive standards. Mutual recognition of test results should be pursued. This process will be backed up by developing global test beds.

● **To provide open access to networks for service and information suppliers**

It is agreed that open access to the global information infrastructure and the people that it serves is essential in order to encourage firms to provide services, create new jobs and provide mutual enrichment to the citizen through the promotion of diversity, including cultural and linguistic diversity, as well as free expression of ideas. This should take place in all countries within a framework which will prevent abuse by dominant actors.

● **To implement fair and effective licensing and frequency allocation**

For fair and effective allocation of scarce resources, transparency needs to be assured by means of promoting objective selection and awarding criteria. Further cooperation, notably under the auspices of the ITU, should be pursued in the field

of frequency band harmonization, particularly for international mobile and personal phone services. International dialogue on the development and the implementation of global mobile and personal systems is encouraged.

● **To allow for productive forms of cooperation while shielding against anti-competitive behaviour**

This will require that competition and regulatory authorities meet at regular intervals in international forums such as the OECD and other relevant bodies to exchange information and views about the evolving regulatory process and the application of competition rules. Cooperation on the enforcement of competition rules should be encouraged while paying particular attention to the confidentiality of commercial data. Work towards a multilateral framework is welcomed. A first step in this process would be for competition and regulatory authorities to provide an accurate description of their regulatory framework.

Protecting privacy and personal data alongside the safeguarding of plurality of opinion play an essential role in maintaining citizens' confidence in the information society and thereby encourage user participation and strengthen competition and market access.

Only if security of information is effectively guaranteed will individuals or organizations take full advantage of information infrastructure. Citizens and society should be protected against criminal abuse of the developing networks.

Providing high levels of legal and technical protection of creative content will be one of the essential conditions to ensure the necessary climate for the investment needed for the development of the information society. Thus, there is a need for internationally recognized protection for the creators and providers of materials that will be disseminated over the global information infrastructure.

G7 partners will increase efforts to find creative, technological and policy solutions:

● **To protect privacy and personal data**

The protection of personal data requires that national as well as regional data protection provisions are defined and properly enforced and that international cooperation and dialogue are encouraged.

● **To increase information security**

Authorities should work collectively to increase the reliability and security of national and international networks. This will be achieved by developing security principles that are commensurate with the risk and magnitude of harm.

● **To protect creativity and content provision**

Measures will be developed through national, bilateral, regional and international efforts, including the World Intellectual Property Organization, which will ensure that the framework for intellectual property and technical protection guarantees

that the right-holders enjoy the technical and legal means to control the use of their property over the global information infrastructure.

Interactive applications will change the ways we live together

Information and communication technologies will present new opportunities and challenges in the way we access and disseminate information and content. Interactive multimedia services and applications are the most visible components of the information society. Their emergence and eventual penetration at all levels of society mean rethinking and restructuring the traditional communications methods. This will create a change in our environment and the way we live together. Sharing experiences on emerging applications would provide us with an understanding of their impact and benefits. Public authorities have an important catalytic role to play in the promotion of research, applications and generic services. They can also further initiatives in the development of applications in areas of common public interest. International cooperation on joint projects provides an opportunity to demonstrate the benefits and uses of the information society.

G7 partners recognize the impact interactive applications will have on society and are committed:

● To share experiences on emerging applications

An inventory of major applications could provide knowledge of new and emerging employment sectors. Information on impediments to the realization and dissemination of new applications will be exchanged.

● To act as a catalyst for the promotion of research, applications and generic services

They will increase cooperation efforts in selected joint projects of common interest, especially on basic technology, including interconnectivity, interoperability and human interface for universal services. Comparable opportunities for participation in projects will be offered.

● To promote joint projects to demonstrate our commitments

They use the opportunity of this Ministerial Conference to identify 11 selected joint pilot projects (see below). The participation of other partners is encouraged. The projects selected aim at demonstrating the potential of the information society, at contributing to solve various important issues for realizing the information society and at stimulating its growth, in particular in relation to job creation, while involving all actors concerned at all levels, and in any country.

They call on all interested parties to join as soon as possible, so that wide cooperation and projects can be effectively initiated by the time of the Halifax Summit.

G7 pilot projects

Executive summary

G7 members along with the European Commission decided to take the opportunity offered by the Ministerial Conference being held in Brussels from 25 to 26 February to identify a number of selected projects where international cooperation could be an asset. These projects would aim at demonstrating the potential of the information society and stimulate its deployment. The projects will be undertaken initially by the partners but are meant to be open. The participation of other partners, including international organizations, is encouraged.

Further refinement and investigative studies will be undertaken in order to define, in further depth, the project contents and their implementation framework.

The work undertaken in G7 pilot projects thus far has been based on joint deliberations and consensus on theme areas identified to be of common international interest for the information society. These selected themes were then rendered into more concrete project proposals through formal and informal discussions and meetings. Further refinement of the proposals and studies of implementation scenarios are still required for all the projects considered.

It is expected that the consequences of the joint action in this area will provide a concrete contribution to the requirements of the global information society and will demonstrate its potential for the well-being of all citizens.

1. Objectives of the action

The key objectives for the launching of pilot projects for the information society are:

to support the goal of international consensus on common principles governing the need of access to networks and applications and their interoperability;

to establish the groundwork for productive forms of cooperation among G7 partners in order to create a critical mass to address this global issue;

to create an opportunity for information exchange leading towards the further development of the information society;

to identify and select projects of an exemplary nature having tangible and clearly understandable social, economic and cultural benefits which will demonstrate to the public the potential of the information society;

to identify obstacles related to the implementation of practical applications serving the creation of a global information society;

to help to create markets for new products and services, where appropriate.

2. Principles

The main principles guiding the selection and implementation of the theme projects are the following:

to have clear added-value for the development of the information society by:

- increasing the effectiveness of information exchange,
- launching common actions,
- initiating cooperation at a global level;

to give meaning and content to the concept of information society for the citizen, taking into account their cultural and linguistic diversity;

to stimulate cooperation amongst different players: industry, academia, administrations, public authorities, etc.;

to avoid the creation of new bureaucracy or institutions;

to have as a general rule any expense covered by existing programmes;

to have included open access as an integral part of its design.

They are open to non-G7 countries as well as public and private organizations, including international organizations and standardization bodies.

3. The selected theme area projects

The following are a description of the proposed themes selected for initial implementation. Other theme areas of common economic and social concern, such as applications for senior citizens and people with disabilities, are being pursued and opportunities for other cooperative projects studied.

(i) Global inventory: to create and provide an electronically accessible multimedia inventory of information regarding major national and international projects and studies relevant to the promotion and to the development of the global information society. An assessment of social, economic and cultural factors impacting on its development will also be undertaken.

(ii) Global interoperability for broadband networks: to facilitate the establishment of international links between the various high-speed networks and test beds supporting advanced applications.

(iii) Cross-cultural training and education: to provide innovative approaches to language learning in particular for students and for SMEs.

(iv) Electronic libraries: to constitute from existing digitization programmes a large distributed virtual collection of knowledge of mankind, available to a large public, via networks. This includes a clear perspective towards the establishment of the global electronic library network which interconnects local electronic libraries.

(v) Electronic museums and galleries: to accelerate the multimedia digitization of collections and to ensure their accessibility to the public and as a learning resource for schools and universities.

(vi) Environment and natural resource management: to increase the electronic linkage and integration of distributed databases of information relevant to the environment.

(vii) Global emergency management: to encourage the development of a global management information network to enhance the management of emergency response situations, risks and knowledge.

(viii) Global health-care applications: to demonstrate the potential of telematics technologies in the field of telemedicine in the fight against major health scourges; to promote joint approaches to issues such as the use of data cards, standards and other enabling mechanisms.

(ix) Government online: to exchange experience and best practice on the use of online information technology by administrations on the establishment of procedures for conducting electronic administrative business between governments, companies and citizens.

(x) Global market-place for SMEs: to contribute to the development of an environment for open and non-discriminatory exchange of information and to demonstrate, particularly through electronic data interchange (EDI), the interoperability of electronic and information cooperation and trading services on a global scale, for the benefits of SMEs.

(xi) Maritime information systems: to integrate and enhance environmental protection and industrial competitiveness for all maritime activities by means of information and communication technologies including applications in the area of safety and the environment, intelligent manufacturing and logistics networks.

Annex 2

Opening address by Jacques Santer, President of the European Commission

'Your Royal Highness, President of the European Parliament, Mr Deputy President, Ministers, Ambassadors, ladies and gentlemen,

It is with great pleasure this evening that, on behalf of the European Commission, I open the G7 Information Society Conference.



*Jacques Santer, President of the
European Commission*

I believe that this conference has the potential of going down in history as one that marked a real change in the future of all of our societies. We are indeed proud to host this event. Not just because this conference is combining a unique tandem of the public and private sectors working together and charting the way forward, which is well illustrated here tonight where the whole cross-section of the information society is represented. But also and above all, because in the next two days we have the opportunity to set in train a process that can, indeed should, provide in the near future a quantum leap in the quality of all our lives, everywhere on the globe.

Not just the quality of the lives of those of us in the developed countries, but of all mankind, rich and poor. What we are aiming at is to construct a truly shared vision of human enrichment.

The development of the information society must be truly global, open to all, benefiting everyone. It must offer the opportunity for developing countries to leap-frog in technology terms.

That is why we felt in the European Commission that it was so important to include in our conference and in our deliberations a major political figure from a country which is not yet as developed as those of the G7 partners.

I am particularly pleased to welcome among us the Deputy Executive President of the Republic of South Africa, Mr Thabo Mbeki, who will be addressing us later on this evening. We are greatly honoured, Sir, by your presence, and I know I speak for all Europeans when I say that we in Europe are deeply touched and in great

admiration of your country's transition to a truly democratic system of government — for which we wish you every success.

I would also like to pay tribute this evening to the organizers and contributors to this conference, all of whom, public and private sector alike, have worked extremely hard to make a success out of this event. First of all, I would like to thank, on behalf of all the G7 partners, the Belgian Government for their hospitality and making available the Palais d'Egmont. Secondly, I am particularly grateful to the President of the European Parliament, Mr Klaus Hänsch for agreeing that an essential part of the conference, the exhibition and press centre could be set up in the Espace Léopold in the new European Parliament buildings. We are deeply appreciative of the European Parliament's involvement and support in making this conference a success. I would also like to thank the Ville de Bruxelles for their immense help and support. And last but not least, I would like to mention the vision and determination of my predecessor, Mr Jacques Delors, who triggered the growing European political, economic and cultural interest in the dynamics of the information society. As you are aware, he is chairing the round table of business leaders tomorrow morning.

Dawn of a new age; the new industrial or socioeconomic revolution whatever description we choose — the information society is now upon us. This is not intergalactic pipedreams, nor futurologists running wild! The truth is that the technology is now available and available at economic prices. It is therefore both the present we are considering and our future.

The demand for the services of the information society appear unlimited. One recent estimate, for example, suggests that the multimedia industry in Japan will grow sevenfold by 2010 — surpassing the auto industry in revenue and numbers employed. In Europe the ITC market is growing by over 5% year. What politicians and the private sector have to agree on, are the principles, the conditions, the guarantees and the rules that will allow the creative talents of our entrepreneurs to develop the services for all our citizens, for our businesses and for our governments.

I believe that the development of the information society also offers the European Union a unique opportunity to advance our own competitiveness and the well-being of our peoples across all of our continent. It will provide a real stimulus to our economies in the near and medium-term as the completion of the single market did in the 1980s.

But for the information society to succeed it will require integrating the information society into all levels of our society. What this means in practice is integrating new ways of working, new health-care techniques, coping with new traffic systems, new educational methods and opportunities, new training and skill requirements, new multimedia services, new ways to better manage the environment and our natural resources. In essence, therefore, the information society requires closer integration,

participation and solidarity and all three of these basic building blocks are those which the European Union is not only familiar with but history shows, very successful at developing. We are in an era, which Peter Drucker describes as one where "...knowledge has become the resource rather than a resource. This fact," he says "changes fundamentally the structure of society. It creates new social and economic dynamics. It creates new politics ...".

But there is also another aspect of the information society that should be very attractive for us Europeans — and that is that the information society, if properly managed, offers a wonderful opportunity for our creative talents, for our younger generation and our European cultural diversity to flourish and bloom. The information society is perhaps too often perceived as a homogeneous concept. But to be successful its services will have to be heterogeneous, adaptable, respectful of, and open to the cultural differences of all peoples. The flexibility and speed of modern information systems, of course, allows this. The challenge for the European Union is to create this unity from our diversity.

I believe, as I said on Tuesday, that we in Europe are condemned to succeed with the new information society. This is because the development of the information society will not pause for a "half-time break and a cup of hot water", like Astérix and Obélix in the midst of battle, whilst the laggards catch up. No, the choice is to be in the advance party at the front — or to be nowhere and face astronomical catch-up costs in the future. By then it might even be too late. However, we must have convincing responses for our citizens in order to meet the potential risks inherent in this new technological revolution, namely:

- how to prevent the erosion of cultural diversity;
- how to avoid the creation of a two-tier society;
- how to address the future impact on employment;
- how to avoid a widening gap between developed and developing countries.

On employment, I believe there will be many new opportunities in the future — but they will be those requiring different skills and talents. So we must work together as a matter of priority to ensure that there is a successful transition helping people to transform their old skills into digitalized new skills relevant to the new information society market opportunities of the future.

Ministers from the G7 partners will be working from Saturday afternoon onwards, on a set of common core principles that should be applied to tomorrow's global information society. I am confident they will include the promotion of fair competition and private investment, the adaptation of the regulatory framework and the provision of open access to networks. They will also emphasize the need to ensure universal service and equal opportunity for the citizen, taking into account

cultural and linguistic diversity and recognizing the necessity to pay particular attention to less-developed countries.

But, as I have said, the scope of the information society and its benefits are not just for the élite corps of politicians, expert regulators and company chairmen. We need the highest possible levels of participation. We need, as Vice-President Gore has recently said, the "... universal service goal of ensuring that all members of society are able to share in the benefits of an advanced information infrastructure which is fundamental to the development of the global information society ...". We need to create awareness and carry our societies along, not kicking and screaming, but with common sense, broad consultation, and consensus and by reacting sensitively to the impact of the information society on jobs and our societal structures.

I said at the beginning of my remarks, ministers at this conference will also have the benefit of the conclusions of the round table of business leaders who meet tomorrow morning. It is, of course, the private sector which will be making the investments that will ultimately allow the information society to succeed, hundreds of billions of ecus and dollars will be needed which is why it is so important we all agree on the basic ground rules.

For the benefits to be fully realized competitive conditions and market access will have to be fair and markets more open to future developments of the global information society. Finger-pointing will not work in this context — every country has some skeletons in its cupboard — some larger than others. Only if market access and competitive conditions are perceived to be comparable, effective, fair and stable will private capital investment be mobilized at the required frequency and intensity. Liberalization of services, infrastructure, procurement and investment conditions are therefore essential elements for global success.

But let us not forget the other key issues we must resolve together — such as interconnection and interoperability, fair and effective licensing and frequency allocation, the protection of privacy and personal data, and the crucial issue of protecting intellectual property rights.

Ladies and gentlemen, the showcase at the conference exhibition is a tribute to the inventiveness and cooperation of the private sector to this conference. I am looking forward to visiting it tomorrow with Vice-President Gore and Deputy President Thabo Mbeki — a hands-on experience that I am sure will be invaluable for us to learn about the potential and power of the New Age information society. I would like the international business community to continue working together after this G7 Conference is over — helping us to map out the road forward with concise, practical proposals.

It is, of course, with the cooperation of the private sector, that I hope the G7 partners will agree this weekend to launch I I pilot projects — open to all countries

in the world — that will trigger and catalyse or even adjust the dynamics of the global information society.

My hope and my belief is that these projects — ranging from cross-cultural education and training, electronic museums and galleries to a global emergency-management system or a global inventory on the information society — will enhance peace-making in the world. I hope that they will reinforce our democratic systems by increasing communication, openness and transparency within and between our countries. They may well change the political process for example through a more “interactive” electorate! In this respect the European Commission has just launched “Europa” on the Internet network to provide information about every aspect of the European Union. So these projects can enable our citizens to do more, know more, and take decisions based on a broader knowledge base. They can provide a meaningful contribution towards increasing competitiveness, productivity and employment — thereby creating an electronic *agora* or marketplace for the world’s innovators, entrepreneurs, marketing experts, researchers and end-users. Put simply, they can act as a multiplier for the development of the global information society.

Your Royal Highness, distinguished guests, let me close my remarks this evening by wishing you all a successful, stimulating, path-breaking G7 Conference. Let us advance our joint aims in a spirit of cooperation. Let us build this new revolution together.

I would like to conclude my remarks with an elegant quotation from Ilya Prigogine, a Belgian Nobel prizewinner. He said as early as 1979 that:

“... Le temps est venu des nouvelles alliances, depuis toujours nouées, longtemps méconnues, entre l’histoire des hommes, de leurs sociétés, de leurs savoirs et l’aventure exploratrice de la nature...”.

The time has come.
Thank you.’

Annex 3

Welcoming address by Klaus Hänsch, President of the European Parliament

'Ladies and gentlemen,

I am delighted, as President of the European Parliament, to welcome you this weekend to the Parliament's building where the exhibition centre and the press centre of the conference are located. I hope this setting will be favourable for some rich and fruitful work.

This gives me the opportunity to thank the President of the Commission, Mr Santer, for his invitation to take part in this conference on the information society.

The topic of the information society is, beyond all doubt, one of the most important, if not the most important, of the last years of this century. It affects every aspect of life in our societies. It is impossible to separate the economic, social, technical and cultural aspects: they are completely interdependent.

The fact was clearly understood by President Delors when he submitted the White Paper on growth, competitiveness and employment: the Union has been working for several months on its implementation. The European Parliament, for its part, has already adopted a report on the subject (on the initiative of Mr Herman, who is here among us today).

Last week, in Strasbourg, Parliament held a debate specially devoted to the present G7 Conference, following which a resolution was adopted.

Our societies, after the disturbing effects of a long economic crisis, are now once more beginning to set themselves a goal, and are recovering the energy needed to build their future. I here wish to insist more particularly on two points:

- the extraordinary development of information technology calls for the definition of new rules;
- unless we take careful measures, and despite the optimistic predictions, the information society will prove to be no improvement on today's society.

The history of Europe has traditionally been characterized by protective legislation governing the means of communication, mainly for reasons of security and limited availability: the finite nature of the existing channels of communication meant that they had to be primarily used for public utility services.

That era is no more. The means of communication available today are ever more numerous — radio frequencies, television channels, computer networks, telephone networks, and so on. It follows that, as far as technology is concerned, we are already in the multimedia age.

This technological fact has immediate economic implications. No enterprise can now survive and develop on the basis of its national market alone. Costs have become so high that companies have to be able to operate beyond traditional frontiers.

The Union is one of the world's biggest trading blocs: it has no fear of competition provided it is fair. As you know, the Union is the world's most open market.

I imagine that all of those present are in favour of open markets. We should not forget however, that the Uruguay Round did not yield an agreement on the essential aspects of the information society.

The aspects of intellectual property (in particular authors' copyright, derived rights and artists' rights), the audiovisual industry, telecommunications infrastructures and services, and the protection of privacy and personal data: the European Parliament has, in its resolution, called on the G7 to set up a standing committee with a view to keeping these problems under review.

The economic aspect naturally leads on to the cultural dimension of the information society. The European Parliament, speaking, I believe, for the Union as a whole, refuses to treat information as just another commodity.

Politics have to define a legal framework which will permit market development while simultaneously ensuring universal access to information and preserving pluralism.

This is absolutely vital, albeit difficult, to reconcile.

Firstly, access to "information on information" must be available to all. In a world where information is becoming of strategic importance, everyone must have access to knowledge, free of charge and know where to obtain it.

The European Parliament therefore supports the idea of a universal and free entitlement of all citizens to be informed of the existence and location and conditions of access to the information provided by networks. Such freedom of access is crucial in the fields of education, health and culture.

Secondly, both the protection of privacy and public security imperatives must be guaranteed in law. Universal access to as much information as possible is desirable provided it does not violate these two principles. Legal measures and technical mechanisms should be devised in this connection.

Thirdly, the two rules of world trade must permit the development of interchange in the area of information. Every enterprise should have access to the different markets of the world's continents. This must, however, be on the basis of fair conditions and reciprocity: for instance, the European markets in network infrastructure, basic services and applications should only be open to third countries if they offer the same opportunities in exchange.

For similar reasons of equity, the Union supports the notion of international standards: the standards laid down by the ISO (International Organization for Standardization) should apply universally.

Fourthly, it is essential that there should be a legal framework with a view to preserving pluralism in the information society. Europe is particularly sensitive to the question of language diversity, which is a cultural asset and part of our identity. I do not believe that technology will in itself impose a single language, even if I am trying to speak in that language this evening.



Klaus Hänsch, President of the European Parliament

I believe, rather, that it is both possible and necessary to integrate the notion of cultural diversity into our positions on the new technologies. The existing software and communication products often fail to respect this need for diversity (as in the case of the Internet).

As the President of a parliamentary institution representing the peoples of the Union, I am naturally keenly aware of the potential impact of the information revolution on politics and democracy in our countries.

Numerous leading personalities have been invited to this G7 Conference, including prominent figures from the business world.

I hope you will none the less allow me to express my regret that this conference is overwhelmingly centred on the economic aspects of the information society. There are no representatives of labour here, nor is there anyone to speak for creative artists or for the interests of education, the environment, regional policy or public health. Even so, none of those areas is of secondary importance for the information society.

I am not one of those who believe that technical progress inevitably brings social progress in its wake. Nor do I believe that technical progress is necessarily a threat and a danger to society. I am neither blandly optimistic nor gloomily pessimistic: I believe that technologies are what societies make of them. There is room here for the actions of human beings, societies, economic agents and politicians. The extraordinary changes we are living through should be understood as calling us to our responsibilities.

I am therefore suspicious of expressions such as “electronic democracy”. There has never been such a thing as “mechanical democracy” or “electrical democracy”. It is true that multimedia technology can help us to breathe new life into democracy; but it cannot be a substitute for democracy, nor will it mean anything without practical action in society and the commitment and participation of the citizens.

If legal guarantees are devised to avert any risk of a “big brother” situation, and if universal access is guaranteed to prevent a split between “haves” and “have-nots”, if, and I say if, these two conditions are met, then a democratic step forward will have been made and representative democracy will have been enriched.

On the other hand there are the risks of a two-speed information society.

Who will have access to the new facilities offered by technology?

Who will be in a position to benefit from the enhancement of democracy?

The information society must not be reserved for an élite. In each of our countries, we must ensure the full participation of public institutions and associations in the development of these technologies, running parallel to the market. At world level, we must encourage the participation of the developing countries.

Ladies and gentlemen, the European Parliament has great expectations of this weekend's conference, which may mark an important step forward on the road to an information society which will also be that more democratic society to which we aspire. If this is to be so, we must avoid technological fantasizing and make an effort to respond to the real needs of our societies, that is, the need to combat unemployment, to preserve peace, to enhance liberty and justice.

We need and will have modern information technologies. What we do not need is an information society but a society where people are free and tolerant, and where they can live as human beings with dignity in peace and social justice.

Thank you.'

Annex 4

Keynote address by Thabo Mbeki, Deputy President of the Republic of South Africa

'First of all, I would like to express our profound appreciation to you Mr President, to the European Commission and to the G7 Ministers present here for inviting us to address the opening session of this important conference.

We also bring to the conference the greetings of our President Nelson Mandela who, similarly, asked us to convey both the best wishes of the people of South Africa to the conference and our gratitude that you selected our country to sit in on your discussions.

We believe that by this act you sought to make the critical point that entry into the information society is not reserved for the G7 members and other developed countries, that the debate about the information society is of relevance to all humanity and therefore cannot ignore the position, the needs and role of the developing society.

With regard to information and communication, we are all witnesses to an extraordinary technological revolution which offers ever more powerful and astonishing capabilities, affecting, primarily in the developed world, traditional patterns of work, public opinion, entertainment, education and so on.

These technological developments once more serve to highlight, emphasize and further enhance the disparities between the developed and the developing countries.

All of us present in this room know that, for instance, access to basic telephony is far from being a reality in many parts of the world.

More than half of humanity has never made a telephone call. There are more telephone lines in Manhattan than in all of sub-Saharan Africa.

We also see similar disparities within our own country — between the developed and the underdeveloped parts of our society. In the city of Durban, for instance, telephone penetration among white households stands at 75%. In contrast it stands at 2% as far as black households are concerned.

Given these disparities, it is clear that bringing the developing world on to the information superhighway constitutes a colossal challenge.

We have to address this challenge, nevertheless, if we are to promote economic growth and development worldwide, consolidate democracy and human rights, increase the capacity of ordinary people to participate in governance, encourage resolution of conflicts by negotiation rather than war and do what has to be done to enable all to gain access to the best in human civilization, within the common neighbourhood in which we all live.

In our own country, having recognized the critical importance and role of information and communication, we began, before our elections last year, to take an intensive look at this whole area, including the question of further building our information and communication infrastructure.

As a result of these early studies and discussions among the various stakeholders in our country, the construction of this infrastructure has been determined as one of the important policy objectives of our reconstruction and development programme, which aims to achieve the fundamental and all-round renewal of our society.

It is of course very true that the new democratic government has a whole range of pressing problems to attend to. These include such issues as job creation, housing, provision of clean water and adequate sanitation, education and health care.

It is, however, also clear that we need a vastly expanded and modern information and communication infrastructure to help us address these concerns, which helps to emphasize the urgency of attending to what, at first glance, might seem to be something to which we should give less priority.

Let me therefore state five principles which guide our own approach to these matters of communication and information which this conference is discussing.

First — the information infrastructure must serve as a means to support our goals of reconstruction and development. In this context we are convinced that information and communication technologies constitute an engine for economic development.

As such, these technologies will, among other things, encourage growth within our boundaries and facilitate the further insertion of our economy into the global economy.

It is obviously on the basis of a growing and dynamic economy that we will be able to address, on a sustainable basis, the pressing needs I have mentioned.

The second principle I would like to mention concerns the region of southern Africa.

We strongly believe that any initiative, the purpose of which is to build and modernize our information and communication infrastructure, must be situated within the context of the needs of the southern African region as a whole.

Regional integration is the key to our approach and is an objective which all the peoples of our region have seized upon because it is both possible and necessary. This must also encompass the area of information and communication.

The third principle I would like to mention is that we must adopt a global approach. It seems clear to us that building our information and communication infrastructure is a multifaceted proposition in the sense that it encompasses economic, financial, technological, social, cultural and moral aspects.

Consequently, the solution to these problems must itself be global in nature, cutting across the traditional segments of the information and communication industry and bringing within its scope social and cultural concerns.

The fourth principle concerns the issue of content. Like all developing countries, we are very keen to acquire and grasp the technologies which enable people and institutions to access astronomical processing, storage, retrieval and delivery capacities.



Thabo Mbeki, Deputy President of the Republic of South Africa, visiting the showcase

But we are also extremely interested to ensure that we are not mere importers and consumers of a predetermined content. Rather, we also want to be producers and exporters and therefore active and significant participants in the creation, production and formulation of content, including news, educational and cultural programmes, games, movies, songs, etc.

To give an indication of what we mean by all this, we believe that the modern communication technology we are all talking about must help us educate our children, particularly in the rural and other underdeveloped areas of our country, teach our medical workers and parents how to care for babies, train our youth and eliminate distance and infrastructure imbalances which act as a barrier in providing these social services.

The fifth principle we would like to mention concerns the issue of international cooperation. It is again quite clear that the building of our information and communication infrastructure offers a unique opportunity to enhance international cooperation.

As we have said, we believe that this initiative must be global in nature and involve a great variety of actors, from investors, financiers and manufacturers to operators, educators, artists and so on, drawing into the global project both the domestic and the international, both South Africans and the peoples of the world, both ourselves and the participants at this conference.

Our late entry into the democratic world order has given us the opportunity to take on board exciting new concepts about governance. I refer here in particular to what is described as the participation of civil society in such governance.

As we draft our new constitution and establish new institutions of government, our eyes are focused on the concept of what we have described as a people-centred society. This requires that the people themselves must be empowered to intervene in the decision-making process.

For this to become a reality, the masses must be able to read, to write and to count and be informed on a global basis, that is to say, not only about the plans of government, but at the same time about the situation in their immediate neighbourhood.

The people must not only be the recipients of communication from the rulers, but should also be able to make their voices heard within the committees in which the rulers sit.

We believe that this radical expansion of the frontiers of democratic participation cannot but enhance the legitimacy of the democratic state, tap the initiative and intellect of millions of citizens, limit any tendency towards arbitrary rule and reinforce social stability and peace.

None of this can be achieved without recourse to the information and communication infrastructure we have been talking about — hence our keenness to move in practical ways towards joining the information superhighway.

Without, in any way, overestimating our own capabilities, and in the context of what we have said about the integration of the region of southern Africa, we believe that South Africa can act as one of the bridging societies with regard to the realization of the common objective of bringing together, in a mutually beneficial way, the interests, the assets and the aspirations of the developing world and the technological and financial capacities that reside in the developed world.

In this context, I would like to say that our government is already considering various concrete proposals relating to the information and communication infrastructure.

These proposals include the possibility to lay a fibre optic cable encompassing the whole continent of Africa, the extension of the telephone network to rural and

underdeveloped areas of South Africa, and a project sponsored by an international consortium which addresses our information and communication needs on a global, rather than piecemeal basis.

In all these instances, we would look forward to the participation, on the basis of partnership, of the private sector represented at this conference.

At the same time, we would require that this critical international involvement should link up with our own domestic production and communication capabilities, while also encouraging and enabling the participation of small and medium[-sized] business.

Undoubtedly, the concrete discussions that will flow from these initiatives will bring to the fore the important regulatory question which is one of the items on the agenda of this conference.

Among other things, adequate regulatory frameworks would have to address the all-important issue of ensuring that the developing world does not enter the information superhighway as a second-class road user.

For instance, where the flow of information and cultural products on the information superhighway will originate mostly from the developed North, this naturally becomes a cause of concern to relatively less media-intensive cultures.

I strongly believe that censorship and control are not an appropriate way to deal with these worries.

The best insurance against the swamping of people's cultures is the re-invigoration of their creative spirit and universal appeal.

We, in the developing world, have much to contribute and the superhighway should usher in an era where this contribution ultimately binds humankind closer together and enables all to shape our common destiny.

This leads me to the last point I would like to make.

We believe that this initiative, which has brought us to Brussels, needs to be followed by another one, bringing together a cross-section of the developing world together with the G7 group and the European Union, in recognition of the global information and communication challenge, to exchange views on such questions as strategy, finance and international coordination.

We trust that the distinguished President of the European Union, our host on this occasion, will find time to consider this proposal and perhaps agree to sponsor what we believe would be an important and necessary encounter.

I am certain that our own country, if called upon, would seriously consider the possibility of hosting such a conference.

Please accept our best wishes for the success of this conference and our thanks for your attention.

Thank you.'

Annex 5

Keynote address by Al Gore, Vice-President of the United States of America

'My friend, James Burke, the historian, tells a compelling tale about the last information revolution and the changes it wrought.

Over 500 years ago, not far from here in Germany, a goldsmith who had bungled a sure-fire money-making venture by getting a crucial date wrong, was looking for a way to mollify his business partners. He decided to use his goldsmithing skills to mould what became known as movable type and to use the type in his new printing press to print the one book he knew would sell — the Bible.

In this case, the Gutenberg Bible.

Now, inventions rarely spring full-blown from one brain, totally without precedent, Gutenberg's invention is no exception.

After all, movable metal type had been invented in Korea 200 years earlier. But conditions conspired to keep that first movable typeface from spreading. Confucianism prohibited the commercialization of books and Korean royal presses would print only classical Chinese literature, not the more popular Korean literature.

By Gutenberg's time, there were better conditions: better paper, better metals and eyeglasses. And Europeans were ready for a cheaper way to copy books than using scribes who charged for one copy what a printing press would charge for a thousand.

The result: not only books, but enlightenment; the scientific revolution; the Age of Reason and the political revolution symbolized the document I am sworn to uphold some 200 years after its drafting — the Constitution of the United States.

All, in a way, from a goldsmith's mistake.

What lessons can we draw from Gutenberg's spectacular success? Let me name two.

First, our view of the future and our ability to exploit and develop a new idea are always constrained by the circumstances we find ourselves in at the moment. Yes, Gutenberg had a great idea. But he is given credit for revolutionizing our culture because he exploited his new idea at a moment when the circumstances were conducive to the rapid spread of print technology.

Second, change is incredibly hard to handle, manage and predict — or, as the physicist Neils Bohr once said “Prediction is very difficult, especially when you are talking about the future”.

We gather here today to chart a path to the future — at a time when prediction is as difficult as ever, but also at a time when our circumstances are clearly conducive to the rapid spread of a new capacity to process and communicate information that will benefit all humankind. It is a path that will take us from our shared vision to a new reality. Just as human beings once dreamed of steamships, railroads and superhighways we now dream of the global information infrastructure that can lead to a global information society. But our dream today is not fundamentally about technology. Technology is a means to an end. Our dream is about communication — the most basic human strategy we use to raise our children, to educate, to heal, to empower and to liberate.

In its most basic form, communication is the transfer of information from one human being to another. Information, in turn, is the raw material of knowledge, and knowledge sometimes, if we are lucky, ferments into wisdom. And of course, in all of our countries it is by now a cliché to note that the information revolution now in its early stages will ultimately transform our concepts of both communication and information.

The changes wrought by Gutenberg are our common heritage. The changes we are here to discuss will become our common legacy. Today I would like to outline some principles that the Administration of President Bill Clinton believes ought to determine the kind of legacy we leave.

Last year in Buenos Aires I attended the first World Telecommunication Development Conference to present the United States’ vision of a global information infrastructure that will promote robust and sustainable economic progress, strengthen democracies, facilitate better solutions to global environmental challenges, improve health care and, ultimately, create a greater sense of shared stewardship of our small planet.

The Buenos Aires Conference adopted a set of basic principles we believe are the building blocks of the GII:

- private investment
- competition
- open access
- universal service
- flexible regulations.

These principles have been central to the discussions about the GII in bilateral, multilateral and regional forums, most recently at the APEC meeting last week in Vancouver, but also at the Summit of Americas meeting in Miami last December and in memoranda of understanding between the United States and both Russia and Ukraine.

They will be central here in Brussels, at this meeting, proposed by President Clinton, and graciously hosted by the European Union under the leadership of President Santer and former President Jacques Delors. For the first time, more than 40 representatives of the private sector are formally participating in this conference. They and the hundreds more who are participating informally are demonstrating at this conference an impressive array of applications that signal to the world that the G7 nations are committed to leading the development of a GII by their example in word and deed.

The very act of holding this conference is in keeping with the advice given to dreamers long ago by Mahatma Gandhi: "You must become the change you wish to see in the world."

Moreover, moving forward aggressively on a GII is the best way to deal with concerns highlighted during the G7 jobs summit in Detroit last year. At that conference we confronted the central dilemma facing every government: how do we make sure our economies provide enough jobs?

The initial OECD jobs study outlined the connection between jobs and what we do here. Those nations best able to adopt the new technologies for a knowledge-based economy have been the best at creating jobs.

The fact is that government policies based on faulty assumptions that try to block change or protect the status quo have themselves become job-destroyers. This time we have a chance to get it right. We can open markets to create job opportunities. We can use education and training to enable more workers to adapt to the new workplace.

The liberating effects of these new technologies have been clear around the world. Satellite stations brought medical advice to those tending to the suffering in Rwanda. Radio and TV broadcasts in South Africa promoted the role of voting in a democracy. Wireless technologies are allowing emerging nations to leap-frog the expensive stages of wiring a communication network — for example, in Thailand,

where the ratio of cellular telephone users to the population is twice that of the US.

The effects are also visible in education. One of the biggest handicaps for those who want to learn has been distance. In Washington, the Library of Congress is a wonderful place. But we must ensure it becomes a tool for, let's say, a schoolgirl from my hometown in Carthage, Tennessee, 600 miles away.

Already, distance education is helping some citizens overcome geographic difficulties.

In Japan, over 100 institutions are linked by computer and satellite, with some 150 000 students currently enrolled.

In India, there are five open universities and more than 35 distance learning programmes in conventional universities.

And in Canada, the Knowledge network delivers courses to adult students living on islands in British Columbia.

In France, the newly-discovered cave paintings in Ardèche, almost impossible to reach in real life, are accessible on the Internet to scholars, teachers, and most important, children.

The Clinton Administration is committed to the goal of connecting every classroom, every library, every hospital and every clinic to the national and global information infrastructures by the end of this decade.

We must provide our teachers and our students with the same level of communications technology that shipping clerks, construction workers and government officials use every day.

Information technology is a critical element of economic policy. But there are great obstacles.

How do we begin the hard work of turning the obstacles before us into opportunities?

First, by focusing squarely on those who will drive the demand for information products and services: the users.

User demands will define the market-place.

Competition to serve the users will speed up innovation and cost-effective deployment of new technologies. Private investment in diverse technologies will mean new sources of capital and expertise for rich and poor nations alike.

Computer networks have created whole new, rapidly growing markets. These networks help small and medium-sized enterprises from both poor and rich countries to become more effective competitors in world markets.

In the United States, our spectrum auctions have speeded up the licensing of personal communication services and are leading to the creation of hundreds of thousands of jobs in the next several years — one indication that communication is a source of economic change and growth, not just the result of it.

The GII will not be created in one place at one time by any one group. It will be the product of cooperation among governments, industry and citizens on a global scale.

But how do countries with widely varying needs, cultures, and technologies cooperate?

First, by acknowledging that the fruits of our cooperation should be open access to markets for all providers and users of creative content and information products, equipment and services.

For the competitors in the 21st century global economy, there is no substitute for being in the market-place and providing the users we represent [with] the greatest variety of products, information and services for the least cost.

Second, building the GII is going to require robust competition. And you cannot create robust competition by excluding competitors, whether those competitors are at home or abroad.

It is vigorous competition — which means global competition — that creates jobs.

And so I say on behalf of President Clinton, let the message of this conference be clear: we support competition in open markets that allows any company to provide any service to any customer.

What concrete actions must we take to realize that goal?

First, we must drop our barriers to foreign investment together. For more than 60 years the US has had limited restrictions on foreign investment in certain telecommunication services. In this respect, we are going to change and change this year. Whether by new law or new regulation, we intend to open foreign investment in telecommunications services in the United States for companies of all countries who have opened their own markets.



Al Gore, Vice-President of the United States of America

But we also recognize that the information society demands more than a piecemeal approach. The governments represented here and others have a historic opportunity to open telecommunications markets around the world in the negotiations within the General Agreement on Trade in Services. The deadline for these negotiations is April 1996.

Let us resolve to meet this deadline to remove our investment barriers together.

Second, let us develop and enforce effective intellectual property rights for the GII. If our content-providers are not protected, there will not be content to fill the networks and give value to services.

Third, all parties should participate in the development of private-sector, voluntary, consensus standards through the existing international organizations, such as the International Telecommunications Union, the International Standards Organization and the Internet Society. The creation of truly global networks will require a high degree of interconnection and interoperability.

Governments are not the best arbiters of technology, and government intervention risks encouraging adoption of standards that are either ultimately inferior or inappropriate to demands of the market.

Our vision of an information society is one in which the most valuable resource — information — is also the most abundant.

My hope is that the open exchange of ideas of all sorts and the greatest access possible for all citizens to the varied means of communication will stimulate creativity.

Global communication is not about conformity. Some fear that in losing the distance between ourselves and others we lose our distinctions as well. But communication is about bridging the differences between nations and people, not erasing them.

It is about protecting and enlarging freedom of expression for all our citizens and giving individual citizens the power to create the information they need and want from the abundant flow of data they encounter moment to moment.

Communication is the beginning of community. Whether it is through language, art, custom, or political philosophy, people and nations identify themselves through communication of experience and values. A global information network will create new communities and strengthen existing ones by enriching the ways in which we do and can communicate.

Ideas should not be checked at the border. We have much to learn from each other and we should follow practices and policies that incorporate, not exclude, the greatest diversity of opinions and expressions. We all gain from the exchange of

cultural viewpoints and experiences that occur when open minds engage each other.

At the same time, users of the GII want and will demand privacy. When you ask Americans about information technology, it is their biggest concern. We must protect the privacy of personal data and communications.

Governments and industry need to work together to develop new technologies, new standards, and new policies that will provide the necessary security and privacy protection.

Of course, in order to protect privacy and financial transactions and enforce intellectual property rights, the GII must be secure and reliable. The OECD should continue its leadership in the area of computer security.

Fortunately, technology and human imagination keep providing us with new opportunities to enhance our communication capabilities. Take, for example, non-geostationary satellites. They hold remarkable potential, especially for remote or thinly populated regions, and for societies eager to reap the benefits of 21st century technology, even before completing expensive land-based networks. These advanced technologies can provide everything from basic telephone calls to remote medical diagnosis. Like the Internet, they have the potential to knit together millions of people in different locations and situations — and do it economically.

Every one of the low earth orbit satellite systems — and, in addition, the intermediate-orbit Inmarsat-P affiliate — is multinational, and each satellite consortium welcomes and actively seeks out the participation of both developed and developing countries. Of course, each nation retains the power to determine whether the LEOs may serve it. But countries that license these international satellite consortia help their business communities become more competitive in the global economy and provide their citizens beneficial satellite services.

Our purpose in meeting here together is to advance our common goal of a global information infrastructure that will bring to all countries the benefits of a global information society.

Our challenge today is to create the commercial, technical, legal and social conditions that will establish the foundation for the GII.

As we work across our common boundaries and oceans to build a GII, we cannot think only of today's debates about wireless or satellites; we must perform our work in the service of a global vision that can be realized in every community and village in the world.

I began by talking about Gutenberg, whose voyage of discovery has influenced the lives of every person on this planet.

His was not an easy voyage. There were sceptics and enemies; when his financial backer took 12 Bibles to Paris the book-dealers took him to court, arguing that so many identical books could only be the work of the devil. His work challenged his society to change.

And they learned what we cannot ignore: that we cannot choose to delay or deny the future; we must make ready for it.

There is no better way to prepare for the future than to make the best of the present.

That is why a shared vision is so necessary. We have now a great opportunity to see the world in a new light and to rethink the way it operates and the way in which we should operate within it.

I have outlined today the concrete steps we must take to embark on this new voyage of discovery. Empowered by the movable type of the next millennium we can send caravans loaded with the wealth of human knowledge and creativity along trails of light that lead to every home and village. I thank you for your devotion to this vision and look forward to our journey together.'

European Commission

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